Drug & Cosmetic INDUST

May 1942

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REDUCE SICKNESS AND INCREASE PRODUCTION

CONSISTENT APPEARANCE AND CLEANSING ACTION DETERMINE —

- - - WHY I CONTINUE TO BUY THE SAME BRAND OF DENTIFRICE !

Discriminating consumers first judge your tooth paste or powder by its appearance and cleansing action. If your product fails in these all-important tests it stands little chance of becoming a steady visitor to the shelves of American medicine cabinets.

Your dentifrice will always have the highest consumer acceptance if it is made with SNOW TOP Precipitated Chalk. For SNOW TOP is absolutely pure white in color and its non-abrasiveness makes it a logical polishing agent for dentifrices.

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The FULFILLED PROMISE of a QUARTER-CENTURY AGO STRENGTHENS the PLEDGE of TODAY

IN the face of a great emergency a quarter-century ago, it was necessary to create a new industry in America—the manufacture of high grade laboratory and pharmaceutical glassware.

The Kimble Glass Company is proud indeed of its achievement in meeting demands during that emergency. It is equally proud of its fulfillment of a pledge made to science and industry at that time, a pledge to design and produce, by American labor, laboratory and pharmaceutical glassware to equal or surpass the products of Europe.

Now we are again in a great emergency. Glass products such as Kimble's are urgently needed by Army and Navy medical units, by public health services, by the skilled professions which safeguard the whole American people, fighting under arms or serving at home. Apparatus is needed in industrial laboratories where strategy and tactics are worked out to win the Battle of Production. The demands are vastly more complicated and extensive now than twenty-five years ago.

Today the Kimble organization renews its pledge, and is devoting every facility to meet the demands for material so important to ultimate victory.

• • • *The Visible Guarantee of Invisible Quality* • • •

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Drug & Cosmetic INDUSTRY

MAY 1942

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The Drug and Cosmetic Industry is published monthly by Drug Markets, Inc., Frazer V. Sinclair, President and Treasurer; Thomas R. Farrell, Vice-president and Secretary. Publication Address, 28 Renne Ave., Pittsfield, Mass., U. S. A. Editorial and General Office, 101 West 31st St., New York, N. Y., U. S. A. Subscription price—$2.00 a year, in advance, Foreign Countries, $3.00 Single copies, 25¢; Back issues 50¢. Entered as Second Class Matter, January 1, 1928, at the Post Office at Pittsfield, Mass., under the Act of March 3, 1879.

Contents Copyrighted 1942 by Drug Markets, Inc.

Printed by Sun Printing Co., Pittsfield, Mass., U. S. A.

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Why AMERICAN MENTHOL is ready for TODAY'S needs

American menthol has been years in the making but until now some may have felt it was an idle gesture. Why worry about synthetics when the Far East, with lower living standards and low cost production, was eager to supply them? That's the way some felt about rubber too.

It takes time to develop high quality substitutes. Chemical experiments cannot be hurried. They cooperate with nature and nature is deliberate.

This company started a long series of experiments to create *American menthol.* It was industrial vision expressed in a relentless, progressive program of chemical research. By keeping spread the wings of its industrial vision, this company is able to provide medicinal and other manufacturers with a list of chemical products of highest purity and dependability.

This is the reason why *American menthol* is ready for today's needs.

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THE MOST BEAUTIFUL *All Plastic* *Lipstick Container* IN THE WORLD

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INSIDE NEWS

MAY · PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. · 1942

National's Research Department Goes Into The Field

One of the several Divisions of National's Research Department is the Research Field Service.

The Headquarters of the Research Department at Baltimore has complete bacteriological, chemical, experimental canning and testing laboratories. The Research Field Service Division to which the bacteriological laboratory is attached is the Division whose trained field men convey to the canners, through personal visits, the information gathered from the results of research and developments of the laboratories. Through such visits the results of Research can be practically applied in the canning plants.

The men in National's Research Field Service work have had college training in chemistry and bacteriology. These two sciences cover the broad fundamentals of the canning process and therefore serve as the best background possible.

To crystallize the knowledge obtained in their university training, further instruction is given in all phases of canning procedures as well as instruction to acquaint the men with all the various types of equipment used in canneries.

The accompanying photograph illustrates future field men receiving instruction in one of the most important phases of their work. Usually, after being filled and sealed, cans of foods must be processed (sterilized) properly in one of the various types of retorts. Realizing the vital importance of this phase of the canning process, special emphasis is placed on the study of retorts and their operation in the training of National's Research Field Service Men. This and other phases of their course of training are carefully covered so that these field men can give the canners practical advice when called upon. By virtue of their complete training, they are ready to help canners prevent unnecessary spoilage in their plants. Through this service, not only essential food supplies, but tin cans as well, will be conserved in a year when our country is bending every effort to obtain maximum production. "RESEARCH IS ORGANIZED THINKING." (121)

Future Field Service Men receiving instruction in retort operation and heat penetration.

Instrument Sterilization With Glycerine

Doctors, nurses, veterinarians, laboratory technicians and others who work with instruments that require thorough sterilization will be interested in an inexpensive glycerine-containing solution for this purpose. The solution consists of a 2 percent compound cresol solution and 5 percent glycerine in a mixture of equal parts of water and alcohol.

This preparation has proven highly effective for the sterilization of instruments. It is stated all pathogenic bacteria are killed in one minute or slightly longer. This mixture is less expensive than commercial preparations used for routine sterilization. Moreover, the solution is said to prevent rusting. (123)

Promising Varieties of Cherries

Twelve varieties of sweet cherries have been tested and recommended as worthy of trial by a New York State fruit testing association. Three of these new varieties were originated at the New York State Agricultural Experiment Station, Geneva, N. Y. Of these three, Seneca has probably attracted most attention because of its earliness. It ripens fully two weeks ahead of Black Tartarian, the standard early sweet cherry, and is described as having a rich, sweet flavor and purple black juicy, melting flesh. The tree is vigorous, healthy and productive.

The two other varieties developed at Geneva are Gil Peck and Sodus, these being obtained from the same cross. The Gil Peck is a large, purplish-black cherry similar to Giant and as good in quality as that variety. It is a mid-season variety, ripening a little later than Schmidt. Sodus is a light-colored, firm-fleshed sort, and is rated as the best of the light-colored seedlings thus far produced from the station grounds. It is an early mid-season variety.

The other varieties believed worthy of trial are Early Rivers, Emperor Francis, Giant, Grant d'Hedelfingen, Lyons, Noir de Guben, Schrecken Bigarreau, Victor and Vernon. (122)

New Food Standards

Four additional tentative standards for food products have been issued recently by the Agricultural Marketing Service of the United States Department of Agriculture, Washington, D. C. These include AMS Standards for canned fruits for salads, canned pears, canned orange juice and processed raisins.

These standards are intended to serve as a convenient basis of sale in wholesale transactions and as a basis for determining loan values on hypothecated stocks. They will also form the basis for the official grading service similar to that now available on fresh and canned fruits and vegetables and other processed foods. (124)

(Advertisement)

BY NATIONAL CAN

"Turpentine Belt" Replaces Japan As Camphor Source

For many years the United States has been Japan's largest customer for natural camphor —a product which that country obtains from the camphor trees of Formosa. In 1940, our imports of camphor aggregated more than one million pounds valued at $500,000.

For a good many years the United States has been producing synthetic camphor from turpentine, but now our supplies will come entirely from the chemical retort. We have plenty of raw materials. The area stretching from the Carolinas to Texas, known as the "Turpentine Belt," has supplied 60 percent of the world's total output of turpentine and rosin. To care for our increasing demands, the output this year will be increased 50 percent over that of 1941.

Naval stores (turpentine and camphor) are used in the manufacture of paints, paper, soap, varnish, printing ink, synthetic camphor, adhesives, plastics and chemicals. (125)

Canned or Home-Cooked Foods

While canned foods may in general be rated equal to home-cooked foods, canning has an advantage in obtaining field-fresh vegetables. This is particularly true in the case of perishable foods, since home-cooked vegetables are generally obtained from markets and may be several days old when cooked. Losses of mineral salts and carbohydrates are about the same in either case. To retain vitamin C in canning, an efficient heat exhaust, with minimum headspace left in the closed can, is important for prevention of loss by oxidation. But loss of both vitamin B_2 and C comes mainly through leaching. Therefore, retaining the liquid in which the vegetable is cooked is an important conservation measure whether in canning or in home-cooking. (126)

Something New In Georgia Peaches

Successful cultivation of a new type of peach in Georgia has been reported recently. It is a firm, yellow-fleshed clingstone peach, named Amber Gem. Experiments show it is of excellent quality for canning. Amber Gem also can be picked in August after peaches for the fresh market have been disposed of. The new peach originated in New Jersey, was transplanted and cultivated in Michigan and was then brought to Georgia.

Prior to Amber Gem's successful introduction into Georgia, little peach canning had been done in that state because Elberta, which constitutes the principal peach crop, is too soft for this purpose. (127)

War Won't Bar Iceland Trade Agreement

Negotiation of a trade agreement with Iceland will probably continue despite entry of the United States into the war. Tariff reductions may be made on dried and unsalted fish; prepared and preserved fish; pickled or salted fish; smoked or kippered fish; caviar and other fish roe; fish scrap and fish meal; cod and cod liver oil; herring oil; and certain other fishery products. (128)

Corn Ice Cream Wins Approval

Vegetable ice creams made by the dairy manufacturers division of a midwestern university were served recently to a men's luncheon group in Urbana, Illinois. Purpose of the new dessert course was to demonstrate what we can do if materials now commonly used become highly restricted or unobtainable. These ice creams were made with canned corn, canned peas, carrots, frozen spinach and canned spinach. Best liked was one made with corn; least popular, one made with peas. (129)

Army Looks to Meat Canners for New Foods

New canned meat products that the Army would welcome from commercial canners include a liver product, sterile canned hams, a new type of canned sausage, an improved roast beef, a product containing egg, and canned chicken or turkey with a much higher percentage of broth than the solid-packed product currently produced chiefly for the Federal Surplus Commodities Corporation. The Quartermaster would also welcome sterile, canned whole milk without the overcooked taste of evaporated milk. Another desirable item is a spread for bread that can be used for expeditionary forces in hot climates. The Subsistence Research Laboratory of the Army has been asked to develop a special "Mountain Ration" suitable for use in extreme cold. Suggestions from canners will be gratefully received.

Already canners are working on a beef-and-noodles product, pork hash, corned pork and chopped ham, a concentrated soup stock or gravy, Hungarian goulash, cheese and bacon and cheese and ham. (130)

Technical Topics

LIQUID SUGAR, according to claims in a recently issued patent, can be protected against decomposition by the addition of acetaldehyde prior to storage. (131)

EGG MEATS are removed from the shell through a hollow needle to which a vacuum is applied in a method patented recently. (132)

RICE OIL—A substitute for olive oil is seen in purified rice oil, for which analytical constants are presented. (133)

TOMATO SEEDS have commercial value in Brazil. A drying oil has been extracted that is useful in the manufacture of varnish. Residue is used for animal feed and organic fertilizer. (134)

NEW QUININE PLANTATIONS in South America to replace our losses in Java will not be productive for ten years. (135)

TOOTH POWDERS are being promoted by English dentifrice manufacturers under wartime conditions. (136)

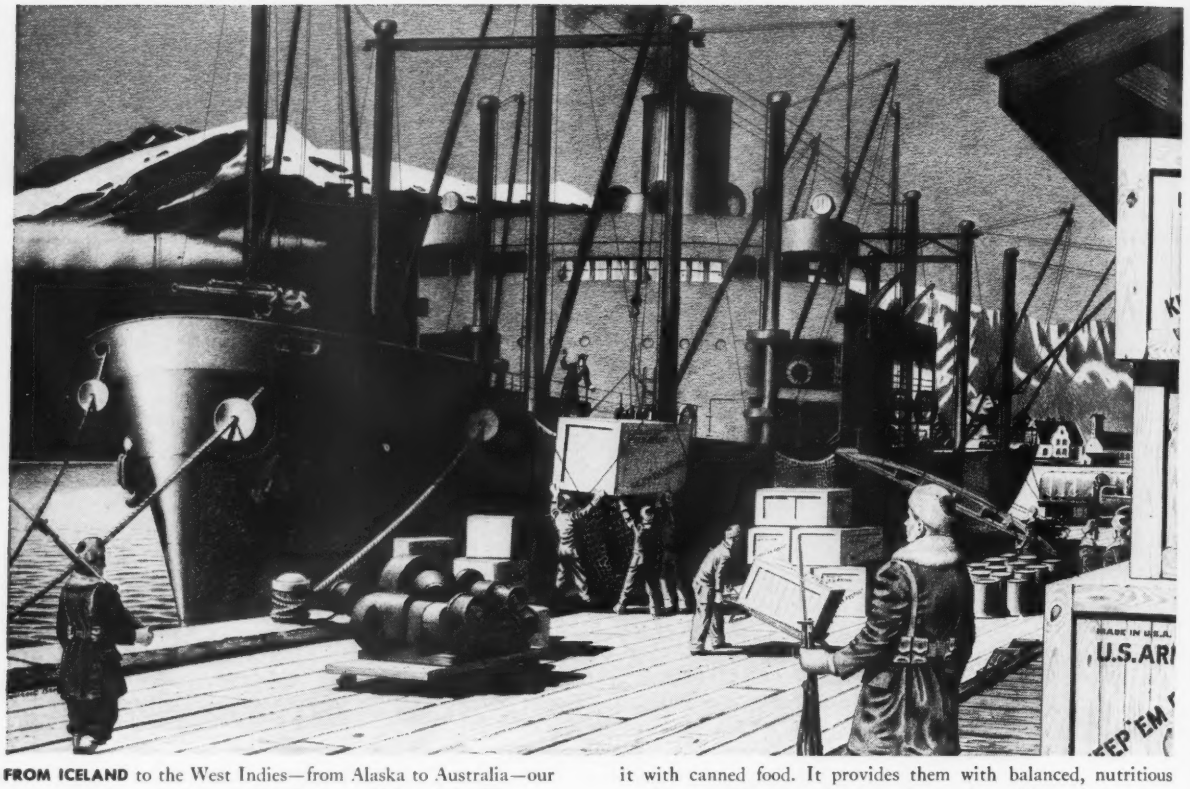
NEW INSECTICIDE—PHTHALONITRILE is a new insecticide, acting both as a stomach and contact poison on insects. In recent tests, the new chemical proved superior to derris. (137)

LECITHIN is an ingredient in a dry-shave lotion formula recently presented in a British pharmaceutical journal. Other ingredients were alcohol, witch hazel extract, perfume, and a wetting agent. Astringent in nature, the lotion was said to produce more satisfactory shaving by inducing the hairs of the face to straighten due to skin contraction. (138)

SUBSTITUTE FOR SHEET CORK—A new heat insulating material, developed by a British company for use in refrigerator linings as a substitute for sheet cork, utilizes peat as its basis. Laboratory tests have shown the new product to be equal to cork in thermal efficiency and in addition to be lighter in weight. (139)

For further information on any of these articles write to National Can Corp., 110 E. 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.

(Advertisement)



FROM ICELAND to the West Indies—from Alaska to Australia—our troops must have the best possible food on which to fight. They get it with canned food. It provides them with balanced, nutritious meals, saves shipping space, eases the supply problem.

No more tin plate for many of you . . . means more "square meals" for them

ONLY THE BEST possible food is good enough for our troops. They must have this food in greater and greater quantities. That's why there'll be no more beer, coffee, and many other items packed in tin plate, as we get deeper into the war.

This saves many tons of tin that will go into cans in which more food for carrying on the war will be packed. Food for our fighting forces. Food for civilians behind the lines. (Tin cans, as you may know, are the perfect containers for processed foods.)

So—until the war is won, you'll have to do without the convenience, beauty, and traditional sales appeal of many tin-plated packages.

Many substitute packages may be offered to you for your products. They may not be so good as the familiar *tin* package, but they'll be the best you can get while there's a war on.

And you can do your part by using your business imagination and capitalizing on these substitute containers. Adapt them to your filling lines. Sell them to your trade. Explain to your trade why these substitutes are necessary for the duration.

REMEMBER: The Government is doing a great job . . . for you, for all of us . . . in controlling the tin supply and directing it where it will do the most good.

In our own laboratories, research on containers is going steadily forward. This research promises not only to improve present containers for your use during the war, but also to develop even better containers of all kinds for your use after the war. AMERICAN CAN COMPANY, NEW YORK, N. Y.

SOME TYPICAL WAR ITEMS MADE BY CAN MAKERS

For our armed forces, can makers supply various types of containers for:

—food rations, explosives, bandages,
—oil, blood plasma transfusion kits,
—delicate anti-aircraft motors,
—emergency water rations, and
—countless other necessities for fighting men.

Sorry!

--war has stopped production of rich, dark, Maryland Blue Bottles

But—

--the same smart designs are being made in clear Maryland Flint

WPB Order No. M-39-b, effective May 1, 1942, prohibits our use of cobalt—the coloring ingredient of Blue glass. For that reason, the manufacture of bottles and jars of the deep, royal shade known as Maryland Blue has been discontinued . . . But—only the famous Maryland Blue *color* has been drafted. The same high quality and smart styling—the same designs and sizes—are being duplicated in clear, sparkling Maryland Flint.

BLUE WILL BE BACK. . . In post-war competition you'll need more than ever the ability of Maryland Blue to "stop the eye and start the sale." Put a note in your post-war plans file: "Look into the sales and merchandising advantages of Maryland Blue Bottles and Jars."

Maryland ~~Blue~~

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Milady has a job

We all have a "national" job to do. Whether it be building tanks or torpedos, turnbuckles or tugs. Milady's job is to build morale. And a strong unified morale is as vital in this all-out effort as any monstrous mechanism of war. The job of the cosmetic industry is to keep Milady's eyes gay and her spirits up so that she can do her job effectively.

Morale is vital to defense

VAN AMERINGEN-HAEBLER, INC.

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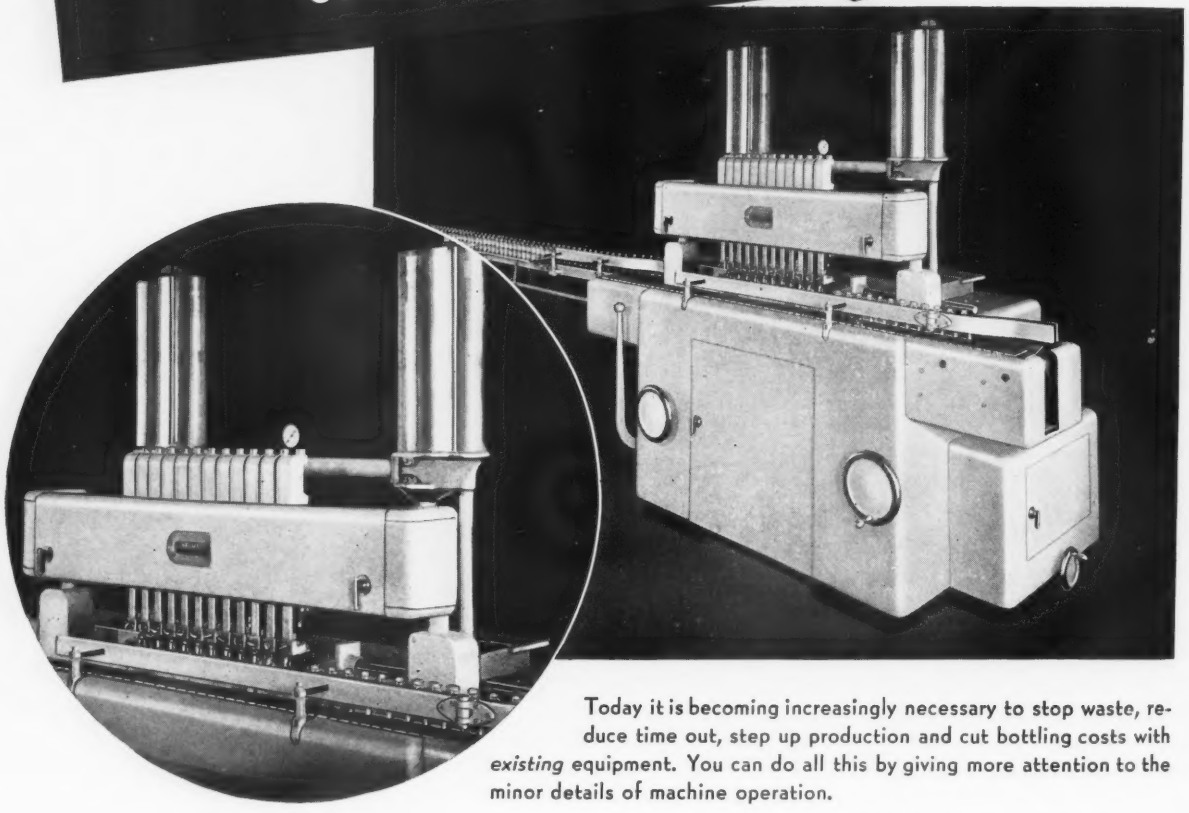
"SPEED" PRODUCTION says:

KEEP AIR and LIQUID LINES TIGHT

FOR BETTER FILLING MACHINE OPERATION



Pneumatic's RIGID FILLING HEADS are easy to keep tight. There are no moving parts, in contact with liquid, to wear and cause leaks. The twin overflow bowls and patented filling nozzles assure fastest possible filling and freedom from drip.

Today it is becoming increasingly necessary to stop waste, reduce time out, step up production and cut bottling costs with *existing* equipment. You can do all this by giving more attention to the minor details of machine operation.

Take vacuum fillers, for example. You may be operating Pneumatics or some other make, but in any case you can boost your production by being certain that all air and liquid lines are tight. This will prevent loss of vacuum which could slow up filling and cause wasteful drip.

Keep the oil in the vacuum pump up to the right level and don't overload the pump by running at a higher vacuum than is needed. Change the water in the separator tank or fume trap at least twice a week. Watching these details carefully *will* increase your operating efficiency.

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LET'S LEARN A LESSON!

WHEN THE PALL OF WAR spread its cloak over England, the womenfolk flocked to the colors to do their part. Staunchly standing behind their men, they gave moral as well as practical support. And with their natural feminine desire to put the best face on things, cosmetics were the order of the day. At first there was opposition. Later it was realized that the well-groomed woman possessed more inherent morale and gave more outward evidence of acceptance in the face of odds.

WE IN AMERICA can learn a lesson from this. We are in difficult times fraught with stress and worries. To the cosmetic industry this is a challenge. More and better cosmetics are needed. Conditions are changing, and cosmetics must change with them. *Now is the time to accept this challenge.*

OUR ORGANIZATION can help you more than ever before in this emergency. We are equipped to formulate and manufacture new and timely products for you. We can put that fresh up-to-the-minute twist on your old product. We have experts of many years standing in all phases of cosmetic research, preparation, and manufacture. More than that, we have specialists in Color who are at your service to help you create new shades and colors appropriate to the excitement of today. We can even assist you with your packaging problems which are constantly becoming more difficult.

WE WOULD WELCOME an opportunity to show how our unique and completed service can help you do your part.

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Telephone Murray Hill 3-0077

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Users of **CAMPHORACEOUS OILS** have found, too, that MM&R can supply wholly satisfactory replacements. It is a field of perfuming research in which the MM&R laboratories have attained signal success.

Your inquiry will have our immediate attenrion.

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THE HANDS that WORK for VICTORY can STILL BE BEAUTIFUL

DURLIN will play its part in upholding civilian morale by continuing the flow of nail enamel to the leading cosmetic packagers. Their products are helping to maintain the fine spirit of the American women during the present period of emotional stress.

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Worth looking into!

Anything that will help you solve today's biting packaging problems is certainly worth looking into!

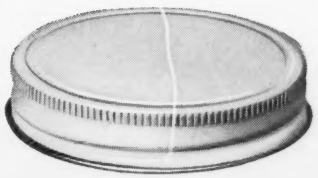
And that's where Anchor Hocking comes into the picture. Why? Because Anchor Hocking offers a variety of benefits—resulting from a long list of *new* developments. And the extra advantages of Anchor Hocking experience and facilities—yours at no extra cost—are particularly important if glass packaging is new to you, and you seek thoughtful assistance in getting organized and started in glass. When you employ Anchor Hocking you employ the services of its specialists in engineering, biological and chemical research. These men know packaging from A to Z.

Because both containers and closures are made for each other by a single source of supply, it will pay you to get the Anchor Hocking complete package. Or, if you wish the containers or closures separately, your friendly Anchor Hocking packaging engineer will be happy to serve you.

Worth looking into!

Anchor Hocking Containers and Closures for Drugs

The Anchor Hocking Wide Mouth Round, ideal for tablets, pills, capsules, dry chemicals and a variety of other drug products, is available in 21 sizes ranging from 3 cc. to 950 cc. Two of these sizes are illustrated. At left, sealed with Anchor 53 mm. C.T. Cap is Number 6510A with a capacity of 300 cc....at right, sealed with Anchor 45 mm. C. T. Cap is Number 6505A with a capacity of 150 cc. These containers are easy to fill...contents are highly accessible. Generous labelling space. Available in amber or crystal.



The Anchor Improved C. T. Cap ... Pitch of cap thread and glass container thread matches throughout their entire length, gives better, tighter seal. Absence of interference between cap and container threads makes cap easy to spin off or on. Fine knurls, cylindrical side walls and neatly turned wire edge provide better appearance.

ANCHOR HOCKING

GLASS & CAPS

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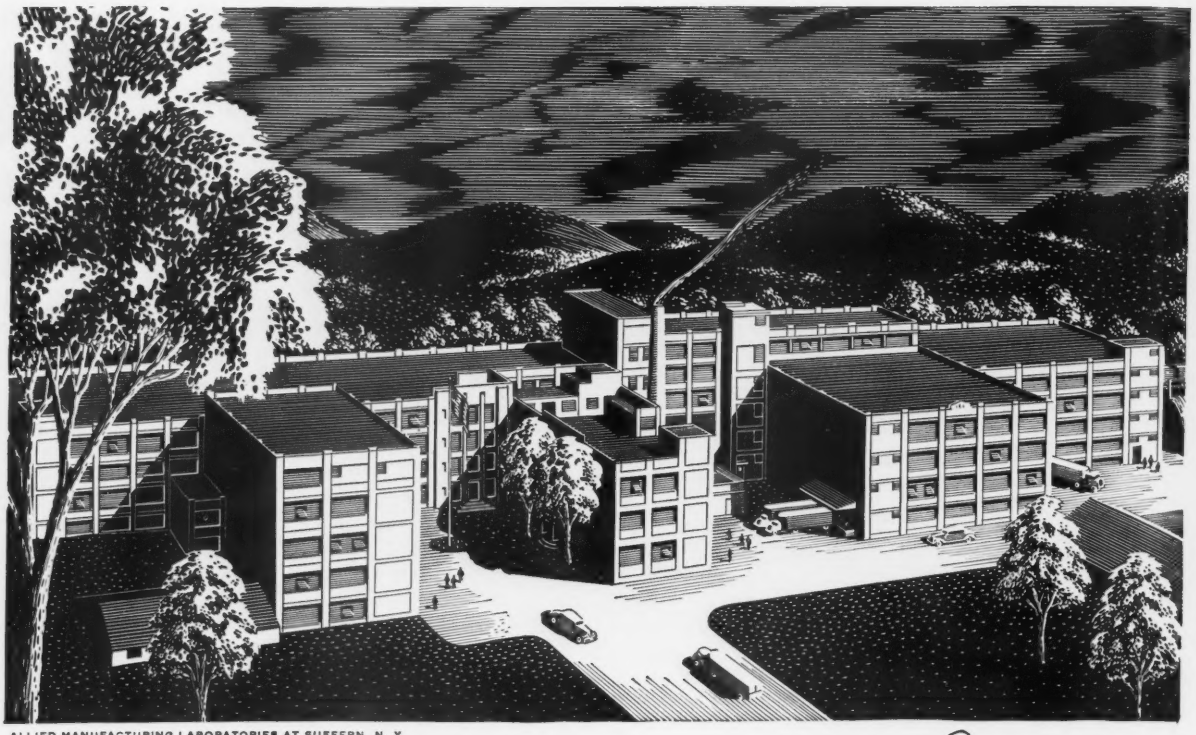

ALLIED MANUFACTURING LABORATORIES AT SUFFERN, N. Y.

THE HANDS BEHIND THE HAND *that applies Loveliness*

The hands behind the hand that applies your cosmetics must of necessity be experienced, versatile, thorough, energetic and competent hands.

To these hands you, as a manufacturer, entrust your reputation. They hold the future of your business. For this very reason, expert knowledge must be at their fingertips. They must be the composite hands of an artist, scientist, craftsman, and business executive. These skilled hands must protect you against error. They must win consumer recognition and acceptance. And they must assure repeat sales.

Because Allied recognizes the great responsibility that it has to its customers, vigilance at this great plant is never relaxed. Constant rigid inspection by expert technicians of every product leaving the Allied plant is the reason for Allied's reputation for consistently high quality products. From the basic formula to the completed package on your dealer's shelf, every operation that has contributed to the finished product reflects the experienced hands that have been schooled in the Allied tradition of perfection.

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PRESENTS A COMPLETE SUBSTITUTE
FOR ABSOLUTE ROSE DE MAI

ROSAM

(Rose de Mai Synthetic)

ROSAM

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BY ALBERT VERLEY & COMPANY

—a totally synthetic Rose composition which truly recreates the living flower

. . . that peak of achievement in synthesis which has so long been sought by the whole perfume world—is now a reality. • The House of Verley proudly offers Rosam as a complete substitute for Absolute Rose de Mai in all of its uses. This new creation, made possible by the development of new aromatic chemicals through extensive research, may be used with full confidence that it actually replaces the Absolute in all kinds of perfumery work. • Like Jasmin Blossom "V," recently adopted by many leading houses as a complete substitute for Jasmin Absolute, Rosam offers assurance that the world's perfume industry shall never again be dependent for indispensable materials upon access to the flower fields of France. Rosam is wholly fabricated in the United States. • You can maintain the quality standards which have established your reputation—without an excessive cost burden—by adopting Rosam generally throughout your formulas. In these times, you cannot afford to let a day go by without investigating this development thoroughly. Let us hear from you now—so that you may be among the first to take advantage of this timely creation.

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HERE AT ALCOA, Imagineering has enabled us to double production and to be well on the way to tripling it, in an amazingly short time. And still the expansion goes on. Swinging immense new plants into top volume at top speed;

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A true imitation of the absolute containing all those constituents which determine the odor of the fresh blossoms.

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This remarkable substitute represents the complete synthetic reproduction of the natural.

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An achievement of which we are justly proud. The ester content is from 25 to 30%, while the solubility closely approximates that of the natural oil.

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This complete substitute of the genuine has an ester percentage of about 38% and may be used in place of natural Bergamot.

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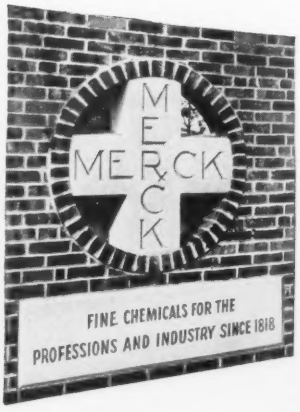
In the endless battle to achieve that goal, Merck research chemists will continue to recognize their heritage of responsibility.



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or any other time of the year, have their exquisite essences duplicated in Dreyer's Perfume Laboratories.

These duplications are more than laboratory extravagances—they are produced for use in all types of cosmetic products. Whatever price range your cosmetics may be in our Perfume Laboratories will be able to supply the correct perfume at the right price to fit your product.

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CREAMS • LIPSTICKS • POWDERS • LOTIONS • EXTRACTS

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Jasmine	12030	4.50
Lilac	2959	8.00
Rose Premier	4345	4.00

LIPSTICK AND ROUGE

Cherry Blossom	3468	$7.20
Jasmine	2923	8.00
Lilac-Lily	1436	5.00
Rose	4300	12.00

LOTIONS

Gardenia	1224	$6.00
Lavender	3400	6.00
Peach	3967	8.60
Syringa	5494	9.20

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Gardenia	5587	8.00
Honeysuckle	2565	16.00
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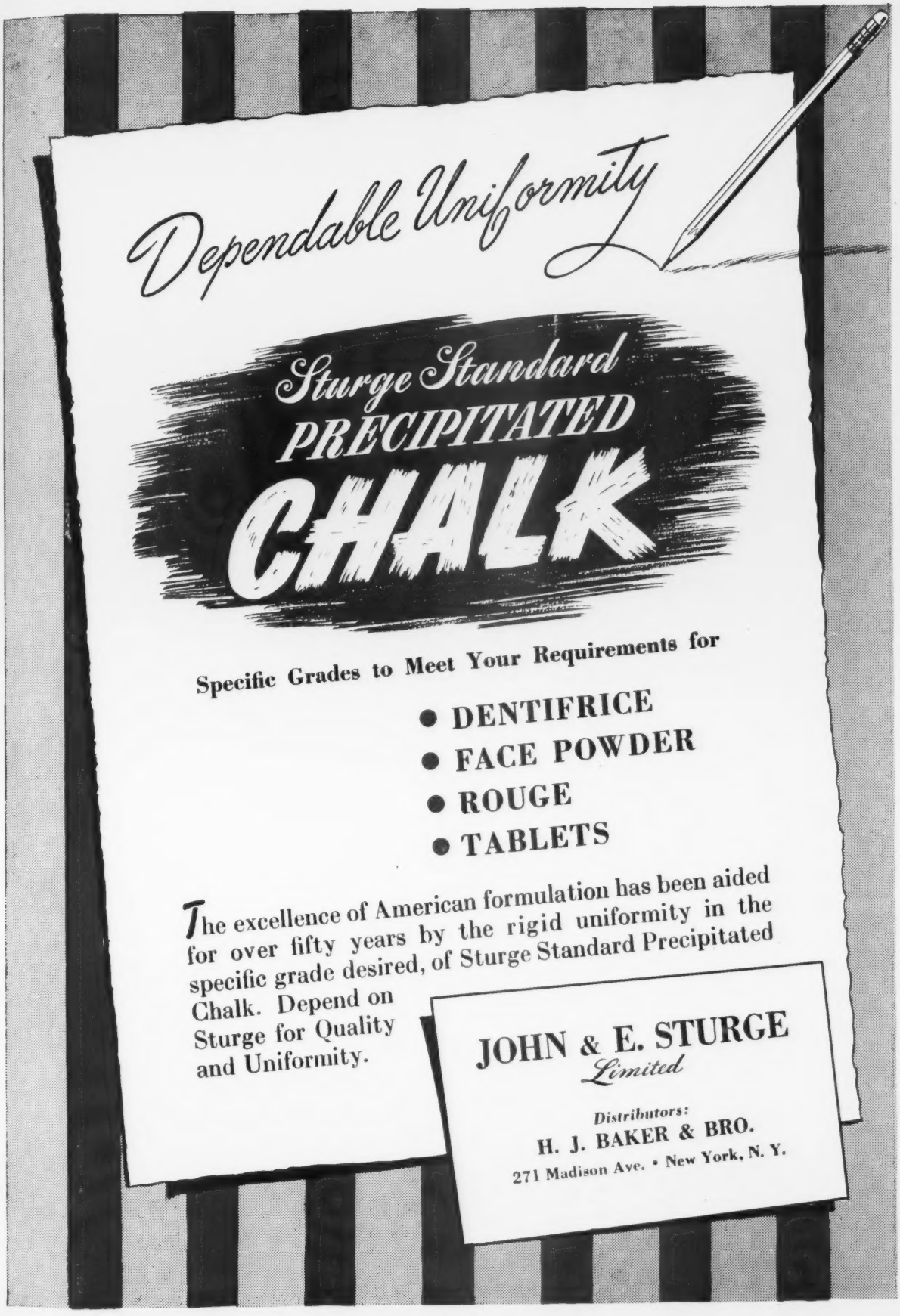
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"HE PUT IN HIS THUMB AND PULLED OUT A PLUM"

Replicas of an old Waterford glass decanter jug are the Cologne bottle and the Virginia Reel bottle trio for Campana's Old South. The hobnails and simple outline of the Cotton Blossom Lotion container correspond with the general nostalgic feeling of the entire Old South line.

MAJOR AWARD - COSMETICS (WOMEN)

It's nice to think that office boys can become presidents. And that obscure waitresses can suddenly blossom forth as movie stars.

It doesn't happen very often in real life. And almost never in merchandising.

Practically every Award that was ever won—every market ever conquered—came out of thought and perspiration. That's especially true in packaging.

The three Carr-Lowrey customers—Campana, McKesson & Robbins, Sheaffer—who won Major Awards in 1942, therefore, deserve all the congratulations they get. Their prize winning packages were proved in day-to-day selling even before they were selected by All-America judges.

Like many leaders in the fields of cosmetics and toiletries, drugs, foods, household products, these companies have chosen Carr-Lowrey to produce their glass packages. That the result has been the achievement of packaging's highest honor is news that other packagers may profit by.

Simplicity is the keynote of McKesson & Robbins' after-shaving bottle for Tawn lotion. The squareness and solidity of the design suggest the masculinity of the product. Integrally molded ridges eliminate the slipping hazard often present in using products of this type.

MAJOR AWARD - TOILETRIES (MEN)

Completely organic design sets off Sheaffer's Skrip Ink bottle from its competitors. It features a patented well-filling device for simplified use.

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CARR-LOWREY 3-Point Service

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For Neutral Greaseless Creams, Ointments and Lotions

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For Anti-Perspirants, Deodorants and Acid Creams and Ointments

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For Creams, Ointments and Lotions of the water-in-oil type

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Character, experience and ability in the important matter of producing Quality Oils

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Throughout our thirty-eight years of pioneering and development of White Oils and Petrolatums, we have followed one fundamental course. This is to increase in every way possible the adaptability of Sonneborn products and Sonneborn service to our customers' needs. It has resulted frequently in effective collaboration with our customers in solving unusual and difficult problems.

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TYPE I: *Medium Consistency—White Protopet—Yellow Protopet and other colors*

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The manufacturer who embodies within his perfumes and toiletries this magnetic fragrance so conducive to a feeling of sophisticated feminine charm has succeeded in his primary objective . . . APPEAL . . .

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INDUSTRY is now definitely on a basis of Wartime Economy. Without doubt, it will be necessary to resort to many changes in formulae due to shortages in various ingredients.

●

IN whole-hearted co-operation with the defense effort, it is our steadfast policy to produce maximum quantities of those chemicals for which raw materials are available and which do not interfere with the defense effort.

●

WITH these available materials the soap and cosmetic manufacturer will still be able to achieve the desired results.

●

WHOLE-HEARTED co-operation between business and government is absolutely necessary in order that a complete and final Victory, both military and economic, be achieved.

For Rose Odors

BUTYL PHENYL ACETATE

Excellent in Rose Odors and Floral Odors generally
Has fruity, floral characteristics and is very stable
Economical to use and there is still an ample supply

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SCARCITY . . . INCENTIVE TO

Close one door? Then, open up another! That's the American way of overcoming obstacles. As a Nation we have *never* resigned ourselves to fretting, fuming or just waiting hopefully for conditions to change. Now as the demands of "all-out" war production dip deep into our material resources and critical shortages of vital supplies begin to loom, we again do something about it . . . confidently.

Optimists? Sure we are! Not in the sense of complacent wishful thinking, but in the conviction that there's always a way to meet conditions by facing the facts squarely and then doing something about them. The busy world of chemical research has repeatedly come through.

Here are a few examples that graphically show what can be done . . .

(*Below*) **RUBBER FROM OIL.** With our normal source of rubber imports shut off probably for the duration, chemical ingenuity has opened up a new source of supply that may eventually make the U. S. completely self-sufficient for this essential material. Already being developed on a vast scale, the expected yield of rubber, together with other synthetic rubber production, may in time fill our national requirements.

(*Above*) **SYNTHETIC SILKWORMS AND WOOL FROM MILK.** Sheer hose of nylon and winter "warms" from casein fibers are other important additions to the fast-growing list of practical, synthetic solutions to material problems.

(*Right*) **PLASTICS FOR METALS.** With most metals vitally needed for war production, plastic materials are stepping in to fill many essential needs, such as for containers and closures, lighting reflectors, and many wartime as well as essential civilian needs.

Achievement

(*Above*) **HERE AT GIVAUDAN** we are endeavoring to carry on with this same typically American pioneering attitude of undeterred determination toward the job in hand. To overcome the handicap of necessary limitations on critical raw materials, we are continuing our efforts to develop satisfactory substitutes and alternate products from non-critical sources. As rapidly as these developments materialize, we shall pass them along to the benefit of users of aromatic chemicals and pharmaceuticals. In the meantime, we will continue to meet your needs on materials that are available. And you are invited to consult with our technicians and chemists who will welcome the opportunity to work with you on the solution of specific problems.

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Smooth, soft texture, uniform particle size, of unsurpassed purity. Thoroughly stable, remains odorless after protracted storage.

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BISMUTH SUBSALICYLATE

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KEEPING POSTED

Cosmetics and WPB

The Toiletries and Cosmetics Branch, Bureau of Industry Branches, Division of Industry Operations, of the War Production Board, is now getting on its feet in the Railroad Retirement Building in Washington. The Branch has been moved from the Social Security Building across the street. This branch,—as with other branches,—seems to be getting away from the system of "dollar a year" men and going in more for career men who have long been in government service.

The question of the chief of this branch does not seem to be settled although C. A. Willard, formerly with the Health Supplies Branch of WPB, has replaced Herbert T. Rosenfeld as Acting Chief of the Toiletries and Cosmetics Branch. Mr. Rosenfeld, formerly president of the Los Angeles Paper Bag Company, surrendered this position as well as the position of Chief of the Safety and Technical Equipment Branch of WPB. William M. Bristol Jr., Chief of the Health Supplies Branch has also been named Acting Chief of the Safety and Technical Equipment Branch. Mr. Willard was formerly president and general manager of the Fruit Treating Corporation, Orlando, Fla., which company makes machinery and supplies for use in packing fruit, coloring oranges, and other fruit operations. Prior to that he was treasurer of the Bay Company, Bridgeport, Conn., manufacturer of surgical dressings, which company has for some years been owned by Parke, Davis & Company.

Mr. Willard has as consultants two well-known men. The first is Dr. Dan Dahle who is now Assistant Chief of the Toiletries and Cosmetics Branch. Dr. Dahle has been loaned to the WPB by the Food and Drug Administration. He has been associated with the FDA for fourteen years and has been in charge of cosmetic regulation since the enactment of the Food, Drug, and Cosmetic Act of 1938. The other consultant is Dr. A. B. Pacini, who has been loaned to the WPB by the Oxzyn Company, a subsidiary of American Home Products Company. The Toilet Goods Association is cooperating in the work that Dr. Pacini is doing for the WPB since this work is being directed toward possible conversion of the cosmetic plants to war work. WPB officials express the view that the Toiletries and Cosmetics Division is "new and young and will have to be expanded." What form this expansion will take has not been indicated. But it appears that the lines to be followed will be those of conversion to war work, simplification and standardization, as well as possible restrictions of raw materials and packaging materials, and perhaps sharp curtailment of some types of products. If the plants and personnel of the cosmetic manufacturers are suitable for war work, the slack in existing plants will be used. If these plants are not suitable for production of some things that are wanted, at least they can produce burn ointments and other types of ointments as well as foot powders and other powders, liquid preparations and emulsions of various kinds needed for the armed forces. The industry has much equipment that might be used for various purposes related to the war effort.

There are no indications that any direct action will be taken against certain cosmetics. Rather it seems that curtailment will be followed as it has been by the curtailment or elimination of raw materials for cosmetics and packages. In addition to alcohol and glycerine, certain colors for lipsticks are apt to be eliminated. If the curtailment or elimination of raw materials for cosmetics and packages cause less cosmetics to be produced, or if taxes or higher cost of living cause less cosmetics to be bought, then greater slack will be available in cosmetic plants, and this slack can be used in the production of goods directly concerned with the war effort.

General Price Ceiling

The price ceiling action which covers all raw materials and finished products of this industry left many questions to be answered in its original form. Many exceptions and adjustments must be made if the plan

is to work without completely putting many people out of business. The OPA was quick to let it be known that adjustments would be made and that as little time as possible would be consumed in getting the rulings. Dealers in imported raw materials wanted to know what was to be done about goods purchased at prices higher than the authorized ceiling prices, which are the highest prices at which the goods were sold during March. Manufacturers of cosmetics wanted to know if special sales of their products which they might have authorized at a time to include the month of March were going to determine their ceiling prices and the ceiling prices of the retailers who sold their goods at these special prices.

Many of the price advances on raw materials since March have been on imported raw materials which have not been imported for several months past. Obviously, these advances have been made on existing stocks in this country and represent an inflationary condition existing in these commodities. However, lots of these raw materials might have changed hands since March at levels higher than the highest prices quoted in March, and to be bound by such ceiling prices will mean losses to these holders. Much the same condition exists with wholesalers and retailers who might have sought to dispose of goods during March at special prices with a view to liquidating some of their stocks. Replacements have been made at prices which might not allow a fair margin of profit at the levels at which these goods were sold and which levels now constitute ceiling prices.

It must be realized that everything is included in the ceiling order with the few exceptions cited in the order. These exceptions do not include any of the products bought or sold by this industry. Take the case of perfume compounds. In these products, substitutions are constantly being made by the perfume compound houses as the raw materials which have long been used become unavailable. As raw materials for these compounds become scarcer, the materials which are substituted are generally higher in price and therefore the price at which the finished compound can be sold must also be higher. The same situation obtains in many other products of this industry. But time and patience are required before the new order can be worked out in the way that it is supposed to work.

Cost-of-Living Goods

The price ceiling order contains a list of products which are termed "cost-of-living commodities." It is required that these products when sold at retail shall carry the ceiling price in a plainly visible and understandable manner. Also it is required that sellers of these commodities shall file with OPA a description of each product and the ceiling price of each.

The cost-of-living commodities of this industry are: Aspirin, Liquid Milk of Magnesia, Liquid Cod Liver Oil, Epsom Salts, Boric Acid, Castor Oil, Mineral Oil, Witch Hazel, Rubbing Alcohol, Hand and Toilet Soaps, Dentifrices (paste, powder, and liquid), Shaving Cream, Tooth Brushes, Sanitary Napkins, Facial Tissues, Infants' Foods (all types), Insecticides.

WPB Drug Committee

A committee of nine members to aid the War Productions Board in dealing with drug and medicinal supplies and their distribution has been established. The committee, which will compile a list of drugs now scarce, an estimate of scarce drugs essential to national health and the uses to which the drugs might be put in the order of their importance, is composed of: Dr. Walter W. Palmer, New York, chairman; Dr. Perrin Long, Johns Hopkins University, Baltimore; Dr. Irons, Chicago; Dr. Morris Fishbein, American Medical Association, Chicago; Dr. E. F. Kelly, American Pharmaceutical Association, Washington; John G. Searle, G. D. Searle & Co., Chicago, president of the American Drug Manufacturers Association; George W. Merck, Merck & Co., Rahway, N. J.; Dr. O. H. Perry-Pepper, Philadelphia, ex-officio; and Dr. Evarts Graham, St. Louis, ex-officio.

Vitamin Order Revised

In a revision of the vitamin limitation order issued April 10, unrestricted use in feeds of vitamin A oils blended prior to February 10 was permitted.

As revised the order prohibits the manufacture of any preparation containing more than 5,000 units of vitamin A in the largest recommended adult daily dosage. Before revision, the order applied only to multi-vitamin tablets, capsules, pills or liquids. These restrictions do not apply to preparations whose vitamin A potency is 25,000 units or more in the recommended adult daily dosage.

It also prohibits the manufacture of feeds containing more than 1,000 units of vitamin A derived from fish liver or fish oils per pound. Chicken, turkey and duck breeding feeds and turkey starting and growing feeds are permitted to contain 2,000 units of vitamin A per pound.

It provides for the use without restriction of vitamin A oils which were blended prior to February 10, 1942. All types of fish-liver oil may now be used in the manufacture of feeds but all transactions in fish-liver oils continue to be subject to the restrictions of General Preference Order M-71, covering the supply and distribution of fats and oils.

WPB Cracks Down

The War Productions Board has issued suspension orders directed against the Acme Chemical Co., Inc., Rona Chemicals, and Hans Lowey and Leroy G. Cohen, principals in "black market" operations in scarce

chemicals, which had resulted in profits of more than 100 per cent.

The orders, S-41 and S-42, effective April 23, state that priority assistance had been extended to the Acme Chemical Co., Inc., to purchase acetic anhydride and salicylic acid for use in the manufacture of aspirin. Some of the material acquired with this assistance was used for the purpose stated in the company's application. However, Rona Chemicals, acting as agent for Acme, sold at least 8,160 pounds of the acetic anhydride and approximately 800 pounds of the salicylic acid. Rona also contracted to sell an additional 5,000 pounds of the acetic anhydride.

Further violations of priority orders by these two companies include the unauthorized extension by Acme of its preference ratings to the purchase of 720 gallons of iso-propyl alcohol, and the sale by Rona, again acting as agent for Acme, of this alcohol.

S-41, directed against Acme, provides that for a period of six months no preference ratings shall be assigned to delivery of any material to the offending company, and that no allocation of any material restricted by the WPB shall be made to it.

S-42 is directed against Hans Lowey and Leroy G. Cohen, individually or doing business as Rona Chemicals, and imposes the same penalties meted out to Acme. Mr. Lowey is president of Acme, and Mr. Cohen was once an official of the company. As individuals, they did business under the name of Rona Chemicals.

OPA Wants Information

The OPA, which not only has direct control of prices, but also has control of priorities and allocations under the WPB, is anxious to obtain all the authentic information that it can as an aid in its work. Therefore, Frank A. Delgado, chief of the Drug Unit Section of OPA has written to the secretaries of the trade associations asking them to circularize their members to this effect. Mr. Delgado's letter to one of the associations reads:

"The Drug and Fine Chemical Unit of this office is anxious to obtain information from your members concerning their experience with regard to availability of raw materials and prices.

"In order that an intelligent review of the prevailing situation may be made, I would appreciate your cooperation in canvassing your membership, by bulletin or otherwise, requesting them to furnish this office with the following information:

"1. List not more than 50 of the most important raw materials used in the manufacture of their finished products.

"2. Have any difficulties been encountered in obtaining the necessary raw materials? Because of price? Because of scarcity of materials?

"3. Production of what items was restricted and why.

"I believe the information will better lend itself to tabulation if furnished in the form of a table and a suggested questionnaire is attached for your convenience. The data submitted by individual firms will, of course, be held in confidence, and the questionnaire, when completed, should be mailed directly to me, Mr. Frank A. Delgado, Chief of the Drug Unit Chemical Section, Office of Price Administration."

The information is being sought from both drug manufacturers and cosmetic manufacturers. Manufacturers in this industry who are not members of any association should communicate directly with Mr. Delgado for a copy of the questionnaire mentioned.

Proprietaries in Minority

The committee of nine members mentioned on the previous page is the outcome of the controversy that has been going on in the Health Supplies Branch of the WPB concerning supplies for the manufacture of drug products. The fight that has been going on concerned itself with the question of whether necessary drugs were only U. S. P. and N. F. preparations, or if ethical specialties could be included without including all proprietary medicines. Now this committee has been formed and it contains members from the medical profession, the profession of pharmacy, and from the pharmaceutical manufacturing industry. The proprietary medicine industry is not represented on the committee.

This setup means that organized medicine as represented by the A. M. A. has its say as to what ethical specialties should be included in the list of those drugs which are deemed essential. The A. M. A. and the pharmaceutical manufacturers could, if they chose, include those products which listed in New and Non-Official Remedies and advertised in the A. M. A. Journal. A good proprietary medicine—not ethically marketed—might be most essential to public health in the opinion of the representatives of pharmacy, but alone these representatives could do nothing about it.

Demerol, a synthetic preparation chemically known as 1-methyl-4-phenyl piperidin-4-carbonic acid ethylester, has both morphine and atropine-like action. In studies conducted at Bellevue Hospital, New York; Receiving Hospital, Detroit; U. S. P. H. Service Hospital Addict Farm, Lexington, Kentucky; and others, it has been shown that this drug could be substituted for morphine in most indications; furthermore, when used in therapeutic doses for relief of pain, addiction is unlikely to occur.

The drug has been used with particular success as a preanesthetic agent, for post-operative pain, peptic ulcer pain, gall bladder and renal colic, rheumatoid arthritis, and migraine. It has little effect upon respiration or upon the cardiovascular mechanism. Although in some instances by-effects occur characterized by nausea, light-headedness, occasional vomiting, they are less frequently observed than with morphine.

The Alba Pharmaceutical Company is responsible for the pharmacologic and clinical research on this product and not the Winthrop Chemical Company as stated in our April issue.

REDUCE SICKNESS AND INCREASE PRODUCTION

THIS is war! It's a new kind of war, a war where industrial production spells the difference between victory and defeat. Every man-hour, every man-day, every man, counts. But this vital war effort is being sabotaged, not by spies, not by enemy aliens but by things more subtle, more deadly—such things as tension, strain, fatigue, injuries and sickness.

The Surgeon General of the U. S. Public Health Service, Dr. Thomas Parran,[1] has said that the conservation and improvement of our manpower is a task of national importance. Something must be done—*now*. The public health agencies are doing their best. What physicians are available are working heroically. Public spirited groups are trying to help. The pharmaceutical industry has a definite job to do, a job which it should not neglect, a job which it must do to help maintain the health standards of industrial workers, particularly those in defense industries.

Let us look at the facts. In our first great war, in 1776, the war that won independence, one worker was sufficient to keep one soldier in the field. Today it is vastly different. Today it takes about eighteen men behind factory machines to keep one man fighting in the armed forces.[2, 3] If one of those workers steps away from his machine or his assembly line because of illness or disability, the production of that entire line is immediately slowed down.

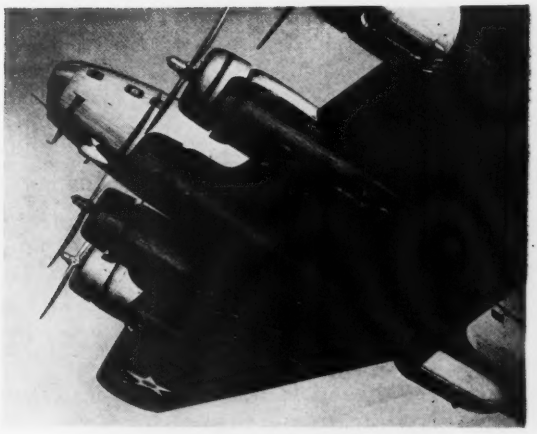
Industry has recognized the fact that sick absenteeism is one of the most serious bottlenecks in the war program.[4] Now that we are at war, loss of working time by skilled and indispensable workers becomes as serious as casualties on the battlefront. Certainly workers are willing and patriotic, but without physical fitness there can be no sustained effort and continuous output. Health is, therefore, one of the most important assets of the industrial worker. Without health, there can be no energy; without energy there can be no output; without output there can be no national security.[5]

What actually is the situation? The actual figures are indeed startling and perhaps even disturbing. Last year, Dr. Parran reported estimates made by the Public Health Service which indicated that 350,000,000 man-days were lost in one year on account of illness and accident among industrial workers. This means the loss of considerably more than 1,000,000 work-years in one full year.

Consider those figures for one minute. One-million man-years of work lost forever! That number of workers is more than the population of a city the size of Cleveland, or St. Louis, or Baltimore or Pittsburgh.[6] It is as if 1,000,000 men did not exist insofar as industrial production is concerned. We hate to think of what that means in terms of unbuilt planes, tanks and ships.

A good deal has been said about time-lost as a result of labor stoppages, but according to Representative McCormack of Massachusetts, that fades in compari-

The opportunity and responsibility of the drug manufacturers lies in a concerted effort to reduce the appalling waste in our industrial production due to sickness.



A BOMBER THAT DOCTORS BUILT

THIS MAY SEEM rather a curious thing to say about a four-engined Flying Fortress.

But, actually, it is not an exaggeration. If it were not for the combined efforts of many doctors, this bomber, and others like it, would not have been built. A moment's thought will tell you why this is so.

The desperate need today is *Man-Hours*. More and more men—skilled in special crafts—working more and more hours. Engineers draftsmen at their boards. . . tool and die makers. . . die-cutters and stampers fashioning the metal . . welders and riveters. . lathe and machine-tool operators . . . electricians . . . and all the other skilled workers.

The health of these trained men is of vital importance. For work-hours lost through sickness are wasted hours—hours lost forever—*when every hour is precious!* And that is where the physician on the home front supplements the work of his colleagues with our armed forces. For it is his responsibility to protect the health of these workers, and speed them back to their jobs when they do get sick.

No one, of course, can compute the total man-hours of work saved for wartime industry by the physicians who are keeping men well and at work. But one thing is certain: Many a plane, tank, and gun is now coming out of our factories as the result of man-hours contributed by the American doctor.

In peacetime, every citizen's health might be considered his own business. In wartime, it's the nation's business as well.

To keep working... you must keep well... SEE YOUR DOCTOR

PARKE, DAVIS & COMPANY

son to sick absenteeism. He estimates that man-days lost to industry in 1940 on account of disability was fifty times as great as that lost because of strikes and lockouts.[1]

Fletcher[7] has figured the cost of absenteeism in terms of dollars and cents. He suggests that if one wishes to approximate the cost of industrial absenteeism in the United States, or in any industrial plant, multiply the number of workers by $70.00 per year. Dr. J. G. Townsend[8] of the National Institute of Health estimates that sickness and accidents among wage earners in industry cost the nation $10,000,000,000 annually.

However, all of these figures are based upon statistics gathered before the nation got into the full defense swing, before Pearl Harbor, after which the pace of production was stepped up to meet the needs of total war. The picture has changed much since then, with an increase in accidents and illness. Of course, the increase in the number of workers is one factor, but the increase in absenteeism is not proportional. In Wisconsin, for example, there was a 45% increase in injuries, but there was only a 30% increase in employment.[9] The need for a growing number of unskilled workers to do skilled work is another consideration. There are other important factors as well, among them being lack of proper supervision, increased production at an increased pace, fatigue, night work, overtime, and the crowding of men and of equipment. Older men and men who have lost their skill through years of unemployment are going back to work. Thousands work under all weather conditions in shipyards. All of these factors have placed an unaccustomed physical, mental and emotional strain on employees.

Women are rapidly replacing men in many industries and that in itself presents a distinct problem. Records show that women have a daily absence of 10% and that they usually exceed men workers in the total absenteeism rate by 200%.[10]

Dr. Parran has estimated that if only 10% (a very conservative figure) of this great labor-time loss could be prevented the results in war production would indeed be tremendous. Based on the number of man-hours required, he calculated that such saving would be sufficient to build twelve average size cantonments, or five battleships or 16,407 combat tanks. Fletcher[7] figured that if 50% of lost time were prevented among 7,000,000 defense workers, the resultant savings of about 200,000,000 hours of labor would be sufficient time to build 100 destroyers, or about 300 standard cargo ships.

Industrial time-loss due to disability can be reduced. Not entirely, of course, since no matter what pre-

cautions are taken there will be some sickness and miscellaneous absenteeism. A 50% reduction is not an impossible goal, if everyone pitches in and does his share. Figures from the National Association of Manufacturers show that efforts along such lines can produce results. They found that by proper coordination and by the installation of adequate types of health and safety services there could be a 44.9% reduction of accidents; a 62.8% reduction of occupational diseases, and a 29.7% reduction of absenteeism.[11]

Even so the figures are far too low. These figures must be raised—and raised now to the optimal. It is quite true that extensive programs have been elaborated to cut time lost by illness and injury and to instruct workers in healthful living. It has been said industrial sick absenteeism can be reduced by intelligent coordination of effort between employer, worker and the medical profession.[12] However, one cannot overlook the fact that approximately 85% of workers are employed in small plants in which there are no organized medical services.[13]

These are all excellent plans but they take time, and time is of the essence. What may be valuable in a year or so is of no value *right now*. Here is where the pharmaceutical industry can do a service to the nation at war. Its products, its brand names are known in every part of the country. People have used these products, know what to expect of them. Now is the time to again emphasize that these long familiar items can continue to render invaluable service to the health of the people. Unless this is done, the drug industry will have lost the faith of a public that has long recognized the value of standard products that help maintain health and help heal sickness.

The problem resolves itself into two parts: occupational absenteeism and non-occupational absenteeism. Since both parts are interdependent, the drug manufacturer has an important function in the prevention of both time-loss causes, but the latter is the one in which his products can do the most good.

It is quite significant that industrial time-loss, that due to occupational hazards or unhealthy conditions in plants, represents a comparatively small proportion of the total absenteeism.[11] Industrial accidents and occupational diseases have been reduced because industrial management has learned that it is far less expensive to prevent such disabilities than to pay for them in the form of compensation plus the loss of skilled labor-time. Even so, it took many years before these facts were appreciated and remedies applied.

Here the drug trade has played a small but significant part. It has done its share by supplying necessary first aid materials, developing burn and other dressings, by providing necessary cleansers, and related products and, more recently, by creating special skin-protecting ointments and creams to prevent industrial dermatoses—a potent factor in time-loss.

Of course, industrial legislation has been a prime factor in raising industrial safety standards and decreasing industrial disabilities. But, there is no legislation that can force a worker to eat foods adequate in vitamins and minerals, take care of a cold, get sufficient sleep, move his bowels regularly or otherwise maintain his general health and efficiency. That is the crux of the entire situation and represents the vast market open to the drug trade.

It has been said that the amount of time lost from general illness is fifteen times as great as the total time lost from both accidents and occupational diseases.[13] The most reliable information available indicates that the average American worker loses over nine days each year to disabling sickness. Generally there will be more sickness among women employees than among men workers with regard to both frequency and duration. Of this total absence, about one day is caused by industrial accidents and occupational diseases, and the rest is due to illnesses and conditions not directly associated with the worker's job.[12]

On the basis of this information it would certainly seem that a health program is at least as important as the safety program which has been so strongly stressed during recent years. Unless something is done about this situation and done swiftly, approximately 1,000,000,000 man-hours of work will be lost through illness in this most critical year when production means protection.[14]

Inadequate nutrition is one of the prime causes of illness and absenteeism. The mere ingestion of sufficient proteins, carbohydrates and fats is not enough to maintain health and efficiency. It is now fully recognized that the average vitamin and mineral intake is woefully inadequate. This situation must be corrected and the drug trade has already started to remedy this condition. It must continue to do so.

Dr. Walter H. Eddy,[15] one of the world's leading nutritional experts, has warned that, "A good many of the disabilities which cause lost labor production have a basis in malnutrition. Among these are: Common colds, nervousness, anemia, loss of vigor and appetite, physical weakness, digestive and gastrointestinal disturbances, constipation, colitis, tuberculosis, premature aging, poor eyesight, stooped posture and a general lack of resistance to disease with exposure to infection. A further consideration is that over 51% of employees in industry as a whole are 40 years of age or over, and many of them suffer from degenerative ills, often heretofore attributed to old age."

Government agencies have stressed that there are too many persons suffering from possible vitamin deficiencies. The medical profession, at least a part of it, has taken a quite opposite view. The actual status probably lies between these two extreme group opinions.

"The inescapable fact remains," says Dr. Eddy, "that the average diet of the average person would undoubtedly be improved by fortification with minerals and vitamins—with the effect that for those who need these elements in added quantity they would be available, and for those who don't need them they will do no

harm. The increasing use of vitamins and minerals is, therefore, a prophylactic measure against malnutrition, and it ought to be encouraged instead of discouraged. If the added daily dose can be put up in a form that will commend itself to the uses of supplementary feeding, particularly in industrial situations, so much the better."

The common cold and other respiratory infections are unquestionably the most important of the direct causes of absenteeism. Although the common cold and related infections of the upper respiratory tract are generally classed as minor illnesses, they are potentially serious and if neglected may result in more serious complications. Numerous studies in the field of industrial medicine have clearly proven that more than 50% of the time lost from work is caused by colds and their complications.[9, 16] There has been an occasion recently when it was estimated that 64% of the total national population had colds.[13] This situation can and must be remedied!

Treatment of colds may be divided into four phases: Prevention; aborting the cold; control of an established cold; and relief from the cold and its complications.[17] Prevention of colds is obviously the most effective method, and this may be achieved by both indirect and direct measures.

Indirect methods require the building of general health and resistance. It is quite true that, in spite of good health, some persons will develop a cold as a result of over-fatigue, wetness and exposure. However, the frequency of this tendency can be remarkably reduced by raising the body's general resistance to infection. Despite the opposition of some medical opinion,[18] there is ample evidence in the medical literature itself to show that the administration of vitamin supplements, particularly vitamins A and D, do help to build resistance to colds.[15, 19, 20, 21, 22, 23] Studies made under actual factory conditions have helped to furnish this evidence. In one such instance, it was found that the administration of capsules containing vitamins A, D, B_1, and B_2 produced "very beneficial" results in the prevention of colds.[24]

More direct methods of cold prevention require good hygienic habits: the frequent use of soap and water, adequate nutrition, sufficient sleep and regular elimination habits. Upon actual or suspected exposure, such measures as gargles, sprays, inhalants and the use of related pharmaceutical products are definitely indicated.

Once a cold has been "caught", prompt treatment to prevent its getting a stronger hold is necessary. A mild cathartic is required to clean out the entire alimentary canal,[19] and many such laxatives are available under standard brand names. Alkaline mixtures are also very helpful. Local applications for the nose in the form of sprays or drops will be helpful in affording relief and in increasing germ resistance. Preparations for the throat such as gargles, sprays, lozenges, "cough" drops and the like are likewise of benefit. The value of aspirin and aspirin-containing preparations and similar products are too well recognized to require comment. The use of oral vaccines for aborting (and preventing) colds has also received some attention and merits consideration.

Further treatment of a more advanced or established cold calls more pharmaceutical products into use. Mild counterirritants and warming preparations for the upper chest and neck, such as chest rubs, plasters and the like often prove comforting. Inhalation of medicated steam helps to clear the air passages, and are especially helpful at night. Regulation of diet is essential, and supplementing the diet with some standard vitamin B preparation in full doses has been recommended.[19]

Back in 1939, in an article emphasizing the importance of preventing and treating colds, one of the leading druggists' publications[17] stressed that, "Many cold preparations are widely advertised and known to the public by name. Whatever may be the merits of individual preparations, the general purpose is the same. Most are safely effective if taken in time and other hygienic measures are observed." The truth of that statement should be reemphasized today. It should be remembered that, in the absence of specific knowledge concerning the cause of colds, standard preparations can continue to serve their established function in returning men to work as soon as possible.

Fatigue is another potent factor in industrial absenteeism. Excessive fatigue, usually attributable to lack of proper rest and sleep, leads to inefficiency, carelessness and disabling accidents. Adequate sleep is a prime factor in a worker's efficiency and any measure that can help to assure proper sleep should be stressed. Warm, prepared, non-stimulating beverages are often quite helpful and the use of standard products of this type should receive wider publicity. The indiscriminate use of sedatives is not one to be recommended, but

(Continued on page 507)

Vitamins in Labor Contract

Under a Philadelphia date line of April 28, United Press issued the following news:

"The Empire Ordnance Corporation agreed in a labor contract signed with two Congress of Industrial Organizations' locals today to supply each of its 2,000 employees with two vitamin pills daily. Carl Bersing, union representative, said each pill contains the equivalent of the vitamins in four quarts of milk, twenty-two ounces of butter, four yeast tablets, three heads of cabbage, two pounds of string beans, one pound of beefsteak, and two carrots."

MARMALADE AND ORANGE OIL

THERE's no doubt about it—the English can take it. They can take their marmalade too, and what's more they intend to have it. But maintaining ample supplies of marmalade for the English breakfast table has proved to be something of a job. The one big difficulty has been their liking for bitter marmalade.

Prior to the outbreak of war this flavor was obtained by making the product from bitter oranges, grown largely in Spain. Great Britain has continued to import some Spanish oranges, but the supply has been far short of requirements.

So it looked for a time as if there were only two alternatives—no marmalade at all or, in British opinion, an unsatisfactory product from American sweet oranges. The solution to this problem was found in Florida where not only sweet oranges are produced in quantity but where grapefruit is also available. It was thought that by combining the two fruits in some manner it would be possible to produce marmalade satisfactory to the English palate, at least for the duration. And it worked!

But the successful accomplishment was not realized before many experts had worked hard and fast on the problems presented. Some 56 million pounds of peel had to be processed—in such a way as to retain a maximum amount of pectin, the substance that makes the marmalade "jell." Although several producers of sweet orange peel were anxious to cooperate in filling the order, only one firm was familiar with the special process and the equipment needed to do the job properly. The assistance of two citrus chemists from the U. S. Department of Agriculture was invaluable and after much cooperative experimental work, a practical method for processing sweet orange and grapefruit peel was devised and specifications were prepared late in November, 1941.

It was realized that 56 million pounds of peel was a big order, that special equipment had to be installed, and that grapefruit is not available in Florida or Texas in any quantity after May or June. But it was December before bids were requested and contracts awarded to five processors—three in Florida, one in Maryland, and one in New Jersey. Time was of the essence.

The British Government shipped six machines to the Department of Agriculture capable of slicing the peel a sixteenth of an inch or less in thickness. Not one went to visit Davie Jones. Production then gained momentum. By April 1st approximately 18 million pounds of peel, a third of the British order, has been processed. American mass production methods are largely responsible for the good showing in filling the British order which is now progressing at the rate of 5 million pounds a week.

Grapefruit and orange peel are packed separately but when the two products reach Great Britain they are combined in the proportion of 60 per cent. grapefruit and 40 per cent. orange peel.

While this story graphically illustrates how American industry can enter a new field and grapple with intricate problems of production, the question naturally arises as to what effect this new industry is likely to have on the production of grapefruit oil and orange oil.

Approximately 100,000 tons of grapefruit are processed annually by Florida canners. On the basis of commercial yield of one pound per ton of fruit, 50,000 pounds of grapefruit oil could readily be produced if the market should call for this quantity. This oil, comparatively new to commerce, was first produced in Florida in 1933.

Grapefruit oil is an amber-colored liquid of pleasing odor resembling both orange and lemon oils. It contains approximately 90 per cent. limonene, 2 to 3 per cent. oxygenated volatile constituents and sesquiterpenes, and 7 to 8 per cent. waxy materials. It is used largely in the flavoring industry but has some applica-

tion in cosmetics and offers promise in perfumery. It is acceptable in colognes and other perfumes where orange and lemon oils are employed.

Undoubtedly the new market for peel has played a part in the rising spot market price of grapefruit oil which sold at $1.65 a pound here in January, 1941, and is now offered at as high as $2.65 a pound for the best grade.

The effect of this new industry, however, is not likely to extend to the market for orange oil. Florida has not been an important producer of orange oil, this industry being largely confined to California. The Californian producers did not take part in filling the British order in view of the fact that grapefruit in sufficient quantities is not available there.

The supply position of domestic orange oil is entirely satisfactory from a consuming standpoint and, if anything, has tended to a position that may result in the accumulation of a surplus. Orange oil is largely used by manufacturers of soft drinks and in the confectionery trade. As sugar rations become more stringent it is likely that these industries will be curtailed with a resulting decline in the demand for orange oil.

In addition, importations of orange oil have had the tendency to increase. Production of orange oil in Brazil in 1942 is forecast at 280,000 to 300,000 kilograms, compared with the 1941 estimated output of approximately 120,000 kilograms, 96 per cent. of which was taken by the United States.

After studies originally undertaken in 1934, the first factory to manufacture orange oil in Brazil was put into production in 1935. After a comparatively slow start the industry developed rapidly, production advancing from 5,234 kilograms in 1939 to 12,400 in 1940. In the first 9 months of 1941 production amounted to 67,564 kilograms.

Producers sell certain grades of orange oil locally for about $2.30 per kilogram; for export grades the price is $3.20. There are two leading types of orange oil made in Brazil, the "baia" and "pera," each coming from oranges of the same names. Oil extracted from the pera brings a premium of 10c per kilogram over the baia. The pera harvest begins in April and continues for about 5 months.

The shipping situation at present makes it unlikely that the bulk of the new Brazilian orange oil production can move freely into this market. But as it accumulates there, it is always a potential supply which must be reckoned with in the spot market. Africa is also a large producer of orange oil and stocks are said to be building up in anticipation of the time when it will be possible to move them to world consuming markets.

MENTHOL FROM COAL TAR

MENTHOL, important ingredient of many medicinal preparations, cigarettes, candies, dentifrices and shaving creams, was until recently obtained almost exclusively from Japanese peppermint oil. Our normal importations amounted to a half million pounds annually so that this commodity represented an important source of foreign credits for Japan. Since the bombing of Pearl Harbor the price of menthol has jumped to $14.00 per pound, although it is normally around three or four.

American peppermint oil, coming from a plant different from that cultivated by the Japanese, has a finer flavor but contains less menthol and is not an economical source of this material. Even the Japanese plant when grown in the United States produces less menthol than in its native habitat.

The only process for the manufacture of menthol prior to the work of Barney and Hass used as the starting material oil of citronella obtained from Java. This material, of course, is also no longer available to the United States.

Foreseeing the possibility of the international situation reaching its present status, several large consumers of menthol in this country established a joint fellowship with the Purdue Research Foundation, the purpose of which was to attack the problem of developing a satisfactory domestic source of menthol. In spite of the fact that efforts by chemists both in the United States and Europe for over sixty years had failed, because of one factor or another, to solve this problem, within ten months from the start of the research a sample was submitted from the Purdue laboratory whish passed inspection.

The reason for the success of the Purdue chemists is that they employed two relatively new American inventions, the Lecky-Ewell precision rectification column, and the nickel catalyst of Murray Raney.

The process starts with the meta-cresol of coal tar which is converted to thymol by treatment with isopropyl chloride made from refinery gases. There is nothing new in this step since thymol has been made thus for some years.

The thymol is treated with hydrogen gas in the presence of the Raney nickel catalyst to yield menthone and isomenthone. Isomenthone is an undesired impurity which is removed from the menthone by precision rectification and is then isomerized catalytically to menthone. The menthone is then reduced to a mixture of menthol and a little neomenthol. Neomenthol is also an undesirable impurity, smelling like camphor. It also is removed by rectification and reconverted to menthone which is recycled through the process. Thus all of the by-products are ultimately forced to yield menthol.

The process is being developed to commercial-scale operation by one of the large aromatic manufacturers in New Jersey, in cooperation with chemists of the Purdue Research Foundation. It is expected that even after the termination of hostilities this process will be the principal world source of menthol.

SALESGIRLS AND SANTA CLAUS

By MILDRED E. SCRIBNER

Conjuring up clever ideas for Christmas packages while the mercury climbed high never was a summer delight. This year with wartime problems of priorities, shortages, rationing, curtailed production, price ceilings, freezing orders, and future uncertainties, designers face a gargantuan idea-task. To conserve essential aspirin, Drug and Cosmetic Industry has patriotically sleuthed around cosmetic counters for Christmas package slants from the girls who sell them, thus preventing many designing-headaches.

The girls on the selling front are doing no wailing about prospective package changes. They appreciate the problems ahead of you, but far from being defeatists they see in the situation a challenging opportunity for you to have a Roman holiday experimenting with new materials and cutting your ideas to fit the conditions. They have faith in your talents and ingenuity to create packages which, while simpler, and perhaps fewer, will yet be resourceful, patriotic, and smart. In fact, they look forward with eager anticipation to the Lucite compacts, the wooden lipstick cases, pottery containers, and sundry other new ideas. And you can bet your last Victory Bond that they'll go "all out" in their promotion efforts on your Victory packaging.

One girl spoke the views of many of her selling sisters when she said: "What has any other country got that we haven't? Suppose we can't have metal compacts and lipstick cases, special mold bottles, colognes, and other things to which we've been accustomed. America is adaptable, used to rapid changes, and receptive to new ideas. The designers will be equal to the emergency. They'll find other materials or processes—probably better ones. In a few years, we may look back and wonder how we ever put up with such materials as those we have had. What's more I believe that the new materials will reduce the cost of cosmetics so that more people can afford quality brands. And that's good business."

Indeed, some salesgirls see in the simplified packaging ahead a real blessing in disguise. One girl fervently exclaimed: "Miss the old elaborate Christmas packages? Of course, I shall, but let me tell you—it will be a good miss! Salesgirls never did like those packages as large as a house which took up much counter space. They ran too much to outside 'frills' and not enough to contents. Frankly, I, for one, am glad that, this year, packages will have to concentrate more on the quality of the products on the inside than on the size of the outside box and its decoration. The customers will get more for their money now, and with costs mounting on all sides, the buying public certainly wants its money's worth."

That girl's emphasis on the consumer-demand for value received is a significant trend in cosmetics. For, if a brief summary of salesgirls' Christmas packaging were made, it would read: "Make it practical and pretty." In contrast to previous years, "practical" dominates "pretty" in that Siamese twin merchandising picture.

Interpretation of "practical" is varied. Attention to after-utility, to merchandising trends and problems ahead, to more and varied multiple packages, and to greater emphasis on essential rather than luxury items is stressed.

Packages with after-use conversion to cigarette cases, glove, jewel, or trinket boxes, and sundry other post-Christmas adaptability always have had good sales appeal at Christmas time. In view of the patriotic angle of saving and salvage, salesgirls believe after-use adaptability of packages should be a dominant note in designing. Customers are ingenious in devising unusual after-use potentialities. For instance, one housewife customer told a salesgirl she liked to use empty cream jars for jellies and jams. She claimed the wide mouthed jars and the screw tops make the containers especially practical for that purpose! Besides they were more decorative than regular jam glasses. Salesgirls say that, if designers really wanted to get some ideas on after-use possibilities, they should take some sneak views through closets, desk and dresser drawers, and home workshops. The storage capabilities of cosmetic boxes, alone, is legion, ranging from paper clips to love letters!

Merchandising problems and cosmetic trends are essential angles in designing this season's Christmas packages. Both salesgirls and buyers hope that the packages you create in June won't be outmoded in December because products or sizes are no longer ob-

tainable. To save vital materials build the packages around sizes which are slated to stay on the market. This year, particularly, larger sizes than in former years may be used since the smaller units are gradually being eliminated.

Christmas packages always have served the purpose of somewhat glorified "sampling." Customers frequently are introduced to new brands, new preparations, or additional products through the medium of trying the contents of gift packages. This year is to be no exception. But this year, it is important to make sure that the items merchandised at Christmas will be obtainable after the holidays. Therefore, let your Christmas packages forecast future promotions.

For example, in recent years colognes and toilet waters have been extremely popular gift items. French perfumes have been high on gift lists. "High fashion" make-up shades have been the favorites for gift-combinations. The emphasis this year is changed. Alcohol shortages are threatening colognes and toilet waters. Perfumes are dominant in the "scent" scene. American perfumes are coming into the foreground. Quality perfumes are in demand. Odor trends are changing from single-flower scents to bouquet fragrances. "Fad" make-up shades are giving way to more conservative colors "for the duration." These and other cosmetic trends should be taken into consideration in designing Christmas packages. Failure to do so will contribute to the threat of inflation by stimulating consumer demand for unobtainable preparations and send prices spiraling up.

Because Christmas packages do create customers out of recipients, salesgirls favor multiple packages. But this year they want those packages to "be different." As just pointed out, some of the traditional items are now impractical. Furthermore new needs are growing out of the war situation. Definitely salesgirls believe this is a "kit" year. But not the traditional manicure, make-up, and traveling case kind of kit. War production needs are creating new demands for other types of cases. Service kits complete with comb and mirror, as well as lipstick, rouge, and powder, would be boons to women on the assembly lines, to volunteer service members, and to others. "Refreshener" sets with convenient sizes of cleanser, foundation cream, hand soap, and lotion would be "hot-cake" items for production workers and business women who would like to have maximum of cosmetic aid in the minimum of space. The problem of space gives opportunity to devise all sorts of ingenious compact packages, for neither factory lockers nor desk drawers are miniature dressing tables. In creating such packages, also, thought should be given to re-fill possibilities. If refills cannot be obtained, or if the containers cannot be replenished from larger packages, such kits are wanton extravagance.

While in previous years, the emphasis was on "luxury" and "novelty" items, this year essentials are the big sellers. Stores can't afford to feature "special" merchandise. Warehousing space is at a premium. The department can't afford an investment in items of limited sale. Build packages then around the "essentials"—creams, perfumes, make-up, and products in special demand on account of war needs. Stress, too, more packages in the medium priced range. True pay envelopes are bigger, but living costs are higher also. Individuals who once were luxury-minded in gift purchasing tend now to more economical buying.

So much for the "practical" side of the "practical and pretty" packages that salesgirls want on their Christmas counters. The "pretty" angle is essential to morale. Some salesgirls are disturbed about the prophesied trend to "plain and simple packages." One nicely phrased the viewpoint thus: "It all depends on the interpretation of 'simple.' There is a simplicity which is the acme of fashion and beauty. And there is another kind of simplicity which is just unimaginative plainness. In an industry which is dedicated to beauty, neither salesgirls nor customers want to see dull packages."

Therefore, in your "plain" packaging aim to be smart. And, if you can, be colorful. For women in a world at war need color to bolster their morale. Bright gay packages for Christmas, like courage-red shoes and other vivid accessories, are challenges to keep feminine spirits and loveliness unflagging during dark days ahead.

Women's beauty loving souls desire feminine touches, also. So, without undue use of vital materials, try to incorporate a ribbon bow, a bright label, a uniquely shaped package, and similar frivolities which have the eye-appeal so important for sales.

Finally, "pretty" packages are antidotes to the sacrifices and strains of wartime economy. Like light fiction and movie-comedies, such prettiness has a psychological "escape" value which is a most constructive release from too serious consideration of wartime problems.

In addition to desiring "practical and pretty packages," salesgirls point out the necessity for earlier creation and presentation of packages this year. By Christmas, the more serious shortages in materials and products will be in evidence. You must anticipate that emergency in your planning and guard against disappointment. Otherwise, you'll plan some "perfectly beautiful packages" only to find that materials for their manufacture this summer or products for their contents are unobtainable. Furthermore, buyers are endeavoring to buy two to three months ahead this year to protect customers from shortages due to transportation and manufacturing difficulties. Christmas buying will be more canny than usual to avoid "dated" packages. According to present trends, then, buyers will be ready to consider their Christmas merchandise a month, or possibly two months, in advance of their customary placing of holiday orders. Therefore, to guarantee satisfaction to buyers, salesgirls, manufacturers, and customers, turn your spring fever into Christmas packaging brainstorms!

DEVELOPMENTS IN ANTISEPTICS

By M. A. LESSER

It is about three-quarters of a century since Lister introduced antiseptics. Innumerable attempts have since been made to create the ideal germicide—one that would kill all microorganisms without injury to tissue.

Progress in antiseptics has indicated the inadequacy of official testing methods,[1, 2, 3] the strongest criticism of the F.D.A. procedure being that the phenol coefficient is an insufficient basis for checking antiseptic value. The most crucial test of an antiseptic is not an *in vitro* bacteriological procedure, but rather the *results obtained* in treatment of wounds and infections. It was almost entirely on this basis that the sulfonamides were discovered,[5, 6] and that many of the newer antiseptics were studied.

The current war is producing its complement of wound treating preparations. One such, a mixture used with good results in air raid injuries, was described by Lee.[8] The preparation, to be painted on or poured into the wound, consists of:

Potassium iodide	640 gr.
Iodine	200 gr.
Distilled water	1 fl. oz.
Glycerine, to make	20 fl. oz.

Grind the potassium iodide to a fine powder, mix with the iodine, add the water and finally the glycerine. When lower strength solutions are required, the dilution should be made with glycerine.

Recently Novak[9] described a *very inexpensive antiseptic* developed after extensive clinical and experimental work:

Alcohol (95%)	525.0 cc.
Acetone	100.0 cc.
Cresol, U.S.P.	5.0 cc.
Mercuric chloride	0.7 Gm.
Eosin Y	0.6 Gm.
Acid fuchsin	0.08 Gm.
Water, to make	1000.0 cc.

The eosin and fuchsin are stains to make treated areas visible. This antiseptic is highly effective, quick-drying, and quickly-active. It is not injurious to the skin, to the operating room personnel or to linens, and is capable of sustained action. Novak remarks that if tax-free alcohol is not obtainable, ordinary rubbing alcohol may be used, but the formula must be adjusted to compensate for the weakness of this impure alcohol.

In view of the observation that many chemical agents have been suggested for disinfection of instruments and none found entirely satisfactory,[10] it is interesting that Novak should also have included one inexpensive, effective mixture for this purpose. He has found that all pathogenic bacteria on knives, scissors and other instruments are killed in one minute or slightly longer by the use of a 2 per cent. compound cresol solution and 5 per cent. glycerine in a mixture of equal parts of alcohol and water.

These are but a few of the more interesting, recently developed antiseptics. However, many others have been reported in the research, medical and patent literature.[11]

Methods for improving the effectiveness of standard antiseptics have received much consideration lately. One approach has been given in studies of the effect of *pH* on such agents. The fact that acidity has an effect on the growth of some bacteria has been known since the time of Pasteur, but the new work largely emanates from research workers at Purdue University.[12, 13, 14] Their work showed that, with many antiseptics, there is a general trend toward a definite increase in bactericidal effectiveness with an increase in hydrogen-ion concentration. In this work mercury derivatives, phenolic compounds, dyes, halogen compounds, and inorganic oxidizing agents were shown to exhibit increases in bactericidal action with increased acidity. Their studies also indicated that this hydrogen-ion effect may be independent of the molecular structure of the compounds.

Similar studies have been made of the fungicidal properties of antiseptics.[15] Here it was found that the pH has no appreciable effect on the fungistatic properties of mercuric chloride, formaldehyde, phenol, copper sulfate or iodine. However, the hydrogen-ion concentration has a significant effect on the fungistatic properties of benzoic acid, salicylic acid, acetylsalicylic

acid, propionylsalicylic acid, catechol, resorcinol, hydroquinone and boric acid.

Recent investigations show that certain *surface-tension depressants* (wetting agents, detergents) can definitely enhance the bactericidal properties of antiseptics. After a series of preliminary tests with a large number of wetting agents, Petroff and Schain[16] selected two for their studies. They found that when added to any well established antiseptic, these agents enhance the bactericidal action against most pathogenic microorganisms. Indicative experiments on animals paved the way for the trial of an antiseptic-detergent combination in tuberculosis and mixed infection empyemas in humans. Favorable results were obtained.

Similarly, Gershenfeld and Perlstein[17] found that a combination of a wetting agent and different antiseptics showed a marked increase in bactericidal efficiency with an increase in hydrogen-ion concentration. Phenol, mercuric chloride, merthiolate (1:1000) and hexylresorcinol (1:1000) all showed increases, but two commercial antiseptics, because of their chemical incompatibility with the surface depressant, did not exert any significant increase.

However, not all wetting agents exert such effects. The addition of thirty-nine chemicals, commonly used as wetting agents, in concentrations of 0.1 to 1.0 per cent., to the antiseptic solutions of phenolic, mercurial and halogen compounds did not increase their bactericidal or bacteriostatic efficiencies. In this study, Gershenfeld and Witlin[18] did not make adjustments to specific hydrogen-ion concentrations, as was done in the work cited above.

Other studies also indicate that certain surface-tension depressants exert definite bactericidal or bacteriostatic effects of their own. Gershenfeld and Melanick[19] found that reduced surface tension alone does not explain the bactericidal action when this property is present in a wetting agent, but is due to a combination of three factors: the existence of a surface active group, anionic or cationic; the hydrogen-ion concentration of the environment; and the susceptibility of the organisms.

Several patents have been granted for antiseptic combinations in which wetting agents are added to increase the bactericidal properties.[20, 21, 22]

Since *ointments* often serve to keep antiseptics in contact with injured or infected areas, these media have come in for a rather thorough investigation. The inadequacy of present official ointment bases has been target for much criticism. This is particularly true of the U.S.P. Phenol Ointment.[23, 24, 25] The ideal ointment base should be: (a) Clean (wash off with water), (b) Stable and without incompatibilities, (c) Therapeutically efficient (penetrating to the pathological process), (d) Non-greasy, (e) Odorless, (f) Non-irritating, (g) Non-dehydrating, (h) Neutral in reaction, and (i) Easily compounded.

Seven of the most outstanding of the newer ointment bases are given, with their compatibilities and incompatibilities, in the December 1941 issue of the *Journal of the American Pharmaceutical Association, Practical Pharmacy Edition.*[26] Representing efforts of both physicians and pharmaceutical workers, an outstanding feature is the frequent use of wetting agents. Obviously, a solution to the problem of an appropriate ointment base to serve as a medium or vehicle for antiseptics is on its way.

Outstanding among newer antiseptics are the bactericidal substances derived from molds and bacteria themselves. Overshadowed for a time by the attention focused on the sulfonamides, these newer materials, notably *penicillin* and *gramicidin*, are now receiving their share of interest.

Despite the recency of interest in penicillin, it should be pointed out that this substance was known to and so-named by Fleming,[27] of England, as early as 1929. He had then noted that a mold of the genus Penicillium was capable of producing a substance which inhibited the growth of certain pathologic organisms. However, as Fleming[28] pointed out in an address some years later, the trouble of extracting penicillin did not seem worth while at the time, even though it had given good results as a local antiseptic.

It was not until 1940 that Chain and his associates[29] pursued this investigation further. The lack of toxicity of penicillin and its effective action against organisms associated with gas gangrene, led to more studies which were reported one year later.[30] Optimal methods for growing the mold and extracting the penicillin had been worked out. The preparation is stored as a strong aqueous extract which is quite stable when saturated with ether and then refrigerated. However, it can also be dried by the lyophilic process, but since the voluminous, yellow powder is hygroscopic, it must be stored in a dessicator. Units have also been established, but because chemically pure penicillin has not yet been obtained, the standard is necessarily an arbitrary one.

Bacteriological studies showed that penicillin is a chemical substance of remarkable potency. Its bacteriostatic action resembles that of the sulfonamide drugs, but with certain important differences. For one thing, the bacteriostatic power of penicillin against streptococci and staphylococci is much greater than that of sulfapyridine and sulfathiazole. Penicillin prevents the growth of a wide variety of bacterial species, including some of the most common and destructive organisms with which humans may be infected. Moreover, in notable contrast to the sulfonamides, its bacteriostatic action is not interferred with by body fluids or pus, and only to a limited extent by heavy infection.

Penicillin is apparently non-toxic. After injection, much of the penicillin may be recovered from the urine and be used again. Indeed, it appears that it is further purified by passage through the body.

The chemical has been put to rather severe clinical tests. Six patients with staphylococcic or streptococcic infection, for whom no further beneficial treatment could be suggested, were given intravenous injections of penicillin. After this treatment, temperature fell and

the general and local condition improved. Local application to four patients with ocular inflammations gave equally promising results.

Abraham and his associates[30] believe there is evidence to show that penicillin is a new and very effective type of chemotherapeutic agent, that it possesses two outstanding properties not had by any other antibacterial substance, namely; low toxicity to tissue cells and powerful bacteriostatic action.

Another possible use for penicillin is suggested by Delafield, Straker and Topley,[31] whose studies indicate that a snuff containing penicillin may be a prophylactic against bacterial infection of the upper respiratory tract and perhaps even against cerebrospinal meningitis.

That penicillin has not been used more widely hinges upon the fact that it is quite scarce. This situation will probably persist as long as the present production methods are used. Greater availability depends upon elucidation of the chemical structure and synthesis of penicillin. Fleming[28] predicts that when this occurs, penicillin will overshadow the sulfonamide drugs.

Another mold species, *Aspergillus*, is also capable of yielding filtrates that are definitely bactericidal for certain organisms.[32] Recently, Glister[33] described a new product from an Aspergillus mold, which has properties similar to penicillin, but which is also effective against gram-negative bacteria causing Shiga dysentery, cholera typhoid and paratyphoid fever.

The second important representative of practical microbial antagonism is gramicidin. Isolated by Dubos[34] of the Rockefeller Institute for Medical Research in 1939, gramicidin is a bactericidal agent originally extracted from cultures of soil bacteria. Culture of this organism as well as of other aerobic sporulating bacilli yield an alcohol-soluble, water-insoluble fraction called tyrothricin, which is bactericidal for most gram-positive and gram-negative microorganisms. Two different crystalline products, tyrocidine and gramicidin, have been separated from tyrothricin. Tyrocidine, however, loses much of its activity in the presence of tissue, whereas gramicidin, when applied locally at the site of infection, retains a striking activity against gram-positive microorganisms.[35]

Obviously, gramicidin, which can readily be obtained directly from the cultures,[36] is the product of greatest therapeutic interest. Studies of its chemical structure have been made[37] and empirical formulas have been suggested.[38] Bacteriological work indicates that it is a highly potent substance.[34, 39] Dubos[40] reports that gramicidin is a true antiseptic which inhibits growth and in higher concentration kills bacteria. It interferes with some essential metabolic process of the invading microorganisms, hence its action is analogous to that of sulfanilamide. Gramicidin, however, is far more powerful than the sulfa drugs. It protects mice against pneumococci, streptococci, staphlococci, and other gram-positive (stain-retaining) bacteria.

However, the fact that gramicidin is not water-soluble, plus the fact that it destroys red blood corpuscles,[41] limits its use to local application and irrigation of closed cavities. Nonetheless, clinical results are most promising, and it has been very successfully used in infected ulcers, maxillary sinusitis, certain skin diseases, persistent cystitis, and pneumococcal empyema.[42, 43, 44]

Gramicidin is still under investigation to determine its limitations and dangers. Hence it is not yet available even to physicians, except for experimental study.

Brief consideration should also be given to methods being developed to "sterilize" air by chemical and physical means. *Aerosols* (not to be confused with similarly-named wetting agents) or *chemical mists* have received particular attention lately. Because of the present necessity for crowding many people into confined spaces (e.g. air-raid shelters) such studies have become most urgent. The value of such atmospheric sterilization for hospitals, bacteriological laboratories, dormitories, public buildings, and in certain industries such as dairying and brewing, is quite obvious.

Research along these lines was limited by the knowledge, learned many years ago through Lister's original phenol spray, that though antiseptics may indeed sterilize the air in a room, they may also prove toxic to humans present. However, newer work showed that by atomizing an antiseptic solution, the air is filled with a mist or aerosol so fine that the final concentration is too small to be harmful to man. These aerosols are suspensions in air of antiseptic droplets so minute as to remain in still air for hours.

Two groups of workers,[45, 46] after a detailed study of several different aerosols, found resorcinol and hexaresorcinol to be most effective. The work of Masterman,[47] and later of Baker and his associates,[48] showed that hypochlorite solutions sprayed into air in very low concentrations were effective as germicides for air-borne bacteria. Studies with propylene glycol mists offer promise, particularly with regard to air-borne influenza virus.[49, 50] More recently, in a report which reviewed much of this subject, Williamson and Gotaas[51] stated that a small mist concentration of a resorcinol-glycerine solution is an effective aerial bactericide; confirming other investigators.[45, 46]

Williamson and Gotaas are of the opinion that, to be of practical use in places occupied by people, an aerosol must conform to the following requirements: (a) Non-toxic to man; (b) non-irritating to the eyes and lungs; (c) rapidly lethal to bacteria when present in small concentrations; (d) inodorous; (e) invisible; (f) non-inflammable; (g) non-corrosive; (h) persistent; and (i) should not leave films or coatings on walls and furniture. They feel that further investigation is needed before aerosols can be used in occupied rooms. However, such mists are of definite use in air fumigation, and such air sterilization can be useful if the aerosols are allowed to be dissipated before the room is occupied by people. They express the opinion that, if the germicidal aerosol is to become of wide practical use, it will have to be as satisfactory and efficient as ultraviolet radiation.

Physical sterilization of air by *ultraviolet radiation* is now generally recognized as a quite effective procedure. It is already being successfully used in hospitals, particularly in surgical work to prevent air-borne infection.[52] Industry is also benefiting from such light sterilization methods.

There are also indications that other physical means will prove of value in fighting microorganisms. Kreuger[53] recently developed a new *sonic generator* that kills bacteria with very short sound waves.

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Reduce Sickness and Increase Production

(*Continued from page 499*)

there are times when a mild sedative preparation, such as a bromide combination, is definitely valuable in breaking the vicious cycle.

Muscle aches and pains which lessen efficiency, especially during the breaking-in periods, often yield to a hot bath and an alcohol rub or the use of some liniment or similar preparation.

The speeding-up of the war production effort to include thousands of night workers presents a distinct problem in itself. In this topsy-turvy night world of industry, the problem of adjustment from normal day-time habits is a very difficult one for many workers. Food habits, sleep habits, elimination habits all undergo changes. The need for pharmaceutical products for these workers was clearly indicated in a recent survey on this phase of war-time industry.[25] It was found that constipation is coming close to being an occupational disease among night-shift workers. Sleep is another problem, and these men would certainly welcome any product that would induce sounder sleep—something that would safely enable them to rest despite day noises and other day-time interferences with sleep. Many such workers, 21.2% the survey shows, report of frequent headaches. Almost as many complain of eye trouble, a not too surprising result of long hours under artificial light. Soothing eye lotions would certainly seem to be in order here, as well as for numerous day workers whose eyes become fatigued as a result of the high accuracy work required in modern war equipment making.

Vitamin products should prove particularly valuable for night workers. For example, vitamin D, the "sunshine" vitamin, would certainly appear to be essential for men who get no sunshine for five or six days at a time, since the day must be devoted to sleep. If it rains on their day off, the situation is even worse.

More and more women are entering industry and their specific needs must also be met by the pharmaceutical manufacturers.

These are the facts. Some of the more progressive manufacturers have recognized the situation, have realized the part they can play in preserving the health and efficiency standards of the all-important American industrial worker. They have launched advertising programs—educational programs to acquaint people with the worth of their products in this war effort. The manufacturer with a defeatist attitude concerning his business is doing a great dis-service not only to himself but to his country. He is depriving people everywhere of drug products they have come to trust and depend upon,—at a time when these products are needed most.

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NAIL ENAMEL

By A. ROSENBAUM

When liquid nail enamel was first introduced, its composition was of a very simple nature. All colors were created by the use of dyes, thus giving a transparent coating to the nails. The basic vehicle was a common nitrocellulose film composition. As the industry progressed, demand for an opaque nail polish arose. With this demand came the problem of developing a product that would hold various pigments, and at the same time afford a product that would be easy to apply and possess definite wearing qualities. Our present-day nail enamel more than answers this purpose. Today's product is a combination of nitrocellulose, resins, flexing agents, solvents and pigments. Just to list the above items would make it appear to be a product of simple formulation; however, the fact is just the opposite. While nitrocellulose is common to all lacquers, choosing the proper resins, plasticizers, solvents and pigments from all the thousands that are available is quite a problem, and very few producers have been successful in creating an acceptable product. It has taken years of valuable experience to obtain the type of nail enamel that the fastidious American women of today are accustomed to using. By the same token, we might add that the nail enamel manufactured in this country is recognized the world over for its fine quality.

In the formulation of nail lacquer we must first consider the film agent, which is nitrocellulose. The most suitable type of nitrocellulose is of the ½ second viscosity type, which affords a high solid content and low viscosity. The nitrocellulose used must be neutral in order not to disturb the lacquer formulation and also be non-reactive to the nails. To the nitrocellulose is added resins, flexing agents, solvents and pigments. The resins aid in the film forming, tend to increase the adhesion of the film, make the nail enamel more resistant to chipping and permit flexibility. They further aid in making the film resistant to water and household detergents.

The plasticizers consist of two groups: namely, solid flexing agents, such as camphor, special resins, etc. and liquid flexing agents, such as dibutyl phthalate, castor oil, etc. To obtain an ideal nail polish film it is necessary to use both types of flexing agents, balancing them in such proportion as to obtain a tough, rapid drying flexible film. The solvents are the liquids in the nail enamel that dilute the solid matter and afford a means of applying the film to the nails by brushing. They are the carrying agents. In choosing the correct solvents it is necessary to obtain those that are least offending in odor. The most commonly used solvents are ethyl acetate, butyl acetate, ethyl alcohol, toluol, etc. These solvents must be properly balanced in order to permit proper drying of the film. The ideal solvent combination will permit surface set within one minute after the nail polish has been applied to the nails. At the same time the solvents must be so blended so as not to permit blushing.

The pigments used are necessarily certified in accordance with the Food, Drug, and Cosmetic Act. They must be specially dispersed to afford good suspension and a maximum of gloss. They must be resistant to light, salt water and household detergents. Also the pigments must be non-staining. It is not desirable to use a high percentage of pigment in the finished nail polish since tests have shown that pigment detracts from the wearing qualities of polish. To overcome this problem, nail enamel packagers have been promoting the use of foundation lacquer with all shades of nail enamel, particularly with the darker, highly pigmented shades which are in vogue at the moment. Some packagers have even gone to the extent of introducing a top coat which tends to seal the nail enamel film to the nails and thus aid in preventing chipping. The foundation lacquer is in reality nothing more than the regular clear nail polish to which has been added a limited amount of thinner to give the foundation lacquer faster drying qualities, and at the same time permit it to act as a binder between the nails and the colored nail enamel film. The top coat is slightly different from the regular nail polish in that it is a very fast drying, thin lacquer and is not as flexible. In choosing pig-

ments one must make sure that the various colorants have a definite affinity for one another, for unless they possess this characteristic they will tend to separate after they are combined in the lacquer vehicle. The basic agent for obtaining opacity is titanium dioxide. No matter how fine this may be dispersed, it tends to settle to a limited extent; however, this is not detrimental. To camouflage the settling of the white pigment, an iron oxide pigment is mixed with the white wherever possible. Since the iron oxide pigments have the highest specific gravity of all the colorants used, it is only natural for this material to settle first and accordingly the precipitate that would appear would not be as noticeable, since the particular iron oxides used in each shade are very close to the desired finished color. While there are only ten or twelve basic colorants used in the manufacture of all the shades, various combinations of these in varying proportions have made possible upwards of 400 different tones.

Because of the complex problems in the production of nail lacquer, the majority of the nail polish packagers and distributors depend on the few experienced bulk producers for their requirements. It is only natural that the packager establish some sort of control on the nail enamel in order to insure a uniform product from his producer at all times. Along these lines there are various tests to which the finished nail enamel can be exposed in order to insure a uniform product.

Checking Colors

In checking color it is necessary to check undertone as well as mass or top tone. To check undertone, glass slides of approximately 3″ x 2″ and about 1/16″ in thickness are used. The glass is placed on a flat surface and an amount of nail enamel equivalent to about the size of a half dollar is poured on to the glass. The glass is then tilted into an almost perpendicular position in order to permit the nail enamel to flow down and dry thoroughly. After the nail enamel is thoroughly dry, the glass is held up to the light and the undertone determined. By the same procedure, one can check for uniformity of opacity. All materials of the same shade should possess the same hiding qualities. For future references, the glass slides are dated and filed in a dark chamber in order not to be affected by light.

Checking For Mass Or Top Tone

The top tone or mass tone is equivalent to the actual appearance of the polish on the fingernail. For checking these qualities, it is desirable to use opaque marble slides of approximately the same size as the glass slides used for checking undertone. As we have previously mentioned, there is precipitation in all shades of nail enamel, and naturally, the established standard used in checking the desired color must always be thoroughly mixed before comparisons are made. By making pourouts on the marble slide just as one does to check the hiding power, comparisons are made for color. Colors that are considered a good match appear uniform at all points on the marble slide.

Checking Viscosity

The viscosity of the nail enamel has to do with consistency. If the nail enamel is too heavy it will not brush properly or dry thoroughly; if it is too thin it will probably streak and have no adhesion. A simple means of determining the viscosity of a nail enamel would be on a Forde cup. In checking viscosity it is necessary to establish a standard temperature for the material. Perhaps the most ideal temperature would be 72° F. After the material has been checked for temperature it is poured into the Forde cup to the desired level, and then released through the bottom opening. By means of a stop watch one observes how long it takes the material to empty from the cup.

Checking, Drying, Adhesion and Flexibility

Perhaps the most reliable means of testing the adhesive qualities of a nail lacquer would be on the fingernails, but there are other simple tests that are fairly accurate. Pourouts are made of the standard, as well as the batch, on a glass slide just as was done to check opacity.

After the slides remain in a perpendicular position for two or three minutes, the drying qualities are determined by touching comparative points on the batch pourout as compared to the standard pourout. After one is satisfied that the batch sample compares favorably with the original sample for drying qualities, both pourouts are set aside for a period of eight to twelve hours to set and dry thoroughly. By scraping the surface of the batch pourout as compared to the standard pourout, one determines the comparative qualities of the film. If the batch material chips when the knife is run through it, it means that the material is brittle. If, on the other hand, the batch sample comes off in a sheet, it means the material lacks adhesion. The established standard should at all times have good adhesion and flexibility.

Packaging Nail Enamel

There are many problems that confront the packager of this product. Naturally, distinctive packaging is the aim of every distributor; however, there are many factors to be taken into consideration in designing a nail enamel package. To begin with, the bottle must not be detrimental to the nail enamel. In seeking a distinctive bottle it is very important that the particular bottle taper outwardly from the neck down. Bottles that taper any other way do not flatter the contents. The coloring matter in all nail enamel precipitates to some extent and unless the bottle is practical and suitable the precipitation may gather on the sides. This tends to give the nail enamel a discolored appearance. The smaller the opening of the bottle the more suitable it is for nail enamel since smaller openings minimize evaporation.

Brushes

Of equal importance to the actual contents is the brush used for application. The ideal length of the

hair is 7/16" to ½". Under present conditions the only brushes available for nail enamel are metal shank brushes manufactured in this country. It is essential that the metal shanks have a protective coating of some type in order not to be attacked by the lacquer. It is essential that the hair of the brush be soft and clean before using. To make sure that the brushes are in proper condition, they should first be washed in acetone to remove the camphor and dust that may have collected in the hairs. They should then be moistened with dibutyl phthalate to make the hair soft, pliable and straight.

Caps

Nail enamel caps are moulded with a well to hold the brush. The cap liner must be either of a linear type or a specially coated cardboard or pulp type glued to the plastic cap.

Filling Equipment and Preparation

The nail enamel must be thoroughly mixed before filling. In cases where the complete contents of the container are not used at one time, it is advisable that the position of the drum or the can be reversed every four or five days. Where production of 60 or 70 gross per day is desired there are portable gravity fillers especially adaptable for nail enamel. Where larger production is required, automatic equipment is available.

SUBSTITUTE FOR ALCOHOL

While alcohol supplies have been cut thirty per cent., it has been pointed out that it is possible to extend the ethyl alcohol now obtainable by the use of tertiary butyl alcohol. Tertiary butyl alcohol is available in unlimited quantities at the present time despite the fact that practically all other solvents of the alcohol type are scarce and under allocation of one sort or another. A well-known nationally distributed hair tonic is now using twenty-five per cent. of tertiary butyl alcohol in its formula, and it appears to be perfectly satisfactory.

Tertiary butyl alcohol is a white crystalline solid which melts at 25.6° C. Above this temperature it is a colorless liquid with a slight camphor-like odor which is characteristic of many tertiary compounds. It is miscible in all proportions with water, and in this property is unlike other butyl and higher alcohols which have only limited solubility in water. It is also miscible with most organic solvents, such as ketones, alcohols, esters, ethers, and aromatic and aliphatic hydrocarbons.

While tertiary butyl has thus far found its principal use as a chemical raw material, it has been used as a solvent for the extraction of drugs, and as a blending agent for in the manufacture of insecticides and disinfectants. It is also used as a denaturant and marker for ethyl alcohol.

SODIUM LACTATE FOR GLYCERINE

Sodium lactate is being used as a substitute for glycerine in a number of instances and the possibility of its use as glycerine substitute in the products of this industry is being investigated. One maker of a paste type of product is said to be experimenting with it, and if it is satisfactory, this one manufacturer will use in the neighborhood of 25,000 pounds per month.

The question of possible skin irritation caused by sodium lactate after prolonged contact is one of the phases under investigation.

Lactic acid, from which the sodium salt is made, is produced from starch as a raw material. The starch can come from corn, potatoes, or other raw materials. There appears to be plentiful supplies of the raw material for producing the lactic acid, although under present conditions, a raw material that is plentiful today might be in a tight position tomorrow. However, there does not seem to be any reason to anticipate any shortage of lactic acid, and it seems that sodium lactate can be supplied in quite large volume before a real tightness develops.

MERCURY CURTAILED

Due to the greater demands for war materials as the conflict progresses, it has become necessary to curtail consumption of mercury further. Therefore, the U. S. Pharmacopoeia Revision Committee has seen fit immediately to adopt standards for mercurial preparations that contain less mercury. The Revision Committee for U. S. P. XII had approved—on purely therapeutic grounds—a ten per cent. Mild Mercurial Ointment for adoption in U. S. P. XII in place of the U. S. P. XI thirty per cent. ointment, and a five per cent. Ammoniated Mercury Ointment in place of the U. S. P. XI ten per cent. ointment. These new preparations became immediately effective for U. S. P. XI as of April 1, but do not become enforceable until November 1.

A number of other proposals for changes in the U. S. P. formulas or requirements to meet war conditions are now under consideration by the Revision Committee, but, to give prompt effect to those already approved, they are being issued as interim revisions to U. S. P. XI.

The average supply of mercury in this country from both domestic production and imports was 27,257 flasks during the years 1934 to 1939. Domestic production has been stepped up to the point at which it is estimated at 44,000 flasks for 1941 and it is still increasing. It is reported that as much as 2,000 flasks per month are available from Mexico to augment our supplies for war purposes. Therefore, this country should be able to supply the needs of the United Nations for the war effort. However, it is necessary that mercury supplies be carefully husbanded because of the much higher cost of domestic production and because of the need of machinery for production.

THE FUTURE FOR COLLAPSIBLE TUBES

Is the tin-coated lead tube the only practical substitute for pure tin tubes?

THE April 1st order restricting the amount of pure tin in collapsible tubes to 578 tons as compared with a former unrestricted use of 5,000 tons was not a surprise to this industry. The order could have been more severe. Only a small restricted group of ethical pharmaceutical products can now use the pure tin tube but the great bulk of products, normally packaged in collapsible tubes, still has available the tin-coated lead tube. The questions that now bother the collapsible tube users are: (1) How sure can we be that tin will in future be available to all classes now allowed to use tin-coated lead tubes? (2) How satisfactory will tin-coated lead continue to prove for many formulae using this container for the first time? (3) Are there any other possible substitutes for the tin-coated lead tube, in case of further tin restrictions or for use by those manufacturers now denied the use of tin-coated lead or restricted to their production as of the year 1940?

Certainly if any possible substitute can be found that has no deleterious effect on health, causes no unfavorable effect on the product packaged, is not too unreasonably high in cost and which American ingenuity can apply to the tube, then such a substitute for tin should be more than welcome.

The tin-coated lead tube is not new in America. Most of us remember the hot and hectic discussions of several years ago when tin prices hit a high altitude and the pine board stores began to blossom with many unfamiliar brands of tooth paste at two tubes for a quarter. For a while these wildcat brands hit a high sales volume and the attention they focused on the amount saved by using the tin-coated tube instead of the pure tin tube brought out a great deal of technical discussion of the faults and merits of tin-coated tubes which we published at the time.

Both the pure lead and the tin-coated lead have had a place in industry but in this trade the tin-coated tube has not had many friends. In spite of this, there has been enough production of tin-coated tubes to bring a substantial increase in technical information and manufacturing procedure during the last several years. In Europe, particularly in Germany and France, the tin-coated lead tube has been in general use for many years. The majority of tooth pastes, creams and other cosmetics was packaged this way long before the war. Many food products, such as condensed milk, condiment pastes, etc., which have long been acceptable to the European public when packaged in a tube, used the coated tube. German technical literature shows that the question of any possible effect on the health from lead absorption from coated tubes has been thoroughly explored. In properly coated tubes no trace of the presence of lead could be found for instance in the mouth of a person consistently using a tooth paste packaged in a tin-coated lead tube. In the case of improperly coated tubes, i. e. with microscopic fissures or areas of exposed lead, traces so infinitesimal as to have no possible harmful effect were found. Nevertheless, in our opinion, it will be necessary in this industry to establish some system of sample tests to insure the uniform covering of the lead in the interior of the tube and the absence of any cracks or pin-holes exposing lead.

This is made necessary not only by the possible effect on health from constant use of the product, certainly a useful precaution until more research can be carried on here under American conditions of distribution and for American formulation, but also because this industry has little experience in meeting possible problems such as electrolytic action which can take place with certain formulae causing the tin to act as anodic and the exposed lead as cathodic.

But if the majority of tube users is, at least for the time being, in a position to carry on, there still remains a substantial number of manufacturers now excluded from the use of a collapsible tube. Few or none of these can use uncoated lead. These groups are: (1) Manufacturers not included in Class I, II, or III of the April 1st order, i. e. manufacturers of cosmetic creams and certain proprietaries; (2) Manufacturers of a new product not using tubes prior to January 1, 1941, and (3) Manufacturers of dental and shaving preparations whose volume is frozen to that of the year 1940. Any possible

non-priority material, adaptable to the collapsible tube form must certainly be of great interest to these groups.

The collapsible tube has had plenty of attention in American and foreign research. It comes pretty near to holding the record on the number of patents registered to cover one thing, in an effort to find the consumer's dream of a non-escapable tube cap.

The aluminum tube, gone but not forgotten and soon, we hope, to return, went through a period of fine technical development. Some years ago a great deal of interest developed in paper tubes and some really excellent tubes were made of paper, resistant to moisture, and mild chemical reactions and capable of taking a fairly good decorative exterior. These tubes found some industrial users but were hardly expected to interest this industry at that time and work was not pushed in that direction.

Cellulose tubes have been on the market for over ten years. Within the last few months, one manufacturer has apparently solved the technical problems which limited this container as a package for paste products, and it is now in use by two of the largest manufacturers in the trade. The cellulose tube is a light, unbreakable, beautifully decorated container. While materials for its manufacture are not on the critical list, the difficulty of securing equipment to step up production is preventing this tube from entering the market as an answer to many manufacturers' tube problems. The cellulose tube is unquestionably an interesting container to watch for developments in increased production and technical qualities for those who package tooth paste, creams, ointments, etc.

Of the malleable metals, aluminum has gone to war 100 per cent. and tin is well on its way to the critical list for this industry. Thus lead remains the one cheap, comparatively free supply of an easily extruded metal available for tubes. But lead by itself can hardly be acceptable to this industry. So it would seem logical to us that the real hope of the tube user lies in a protective coating, inert chemically that can be incorporated as is tin to cover completely the surface of the lead tube without affecting its character as a collapsible tube. Recent tests indicate there may be such a metal in indium, and certainly preliminary tests and the character of the metal give great hope that it can be so used. Indium is one of our little known metals. It is softer than lead, one of the softest metals known, and therefore more malleable than lead or tin. Its physical characteristics are:

Melting Point	155° C.
Boiling Point	Over 4000° C.
Brinnell No. (Malleability)	.85
(Brinnell No. of Lead is 4.5)	
Valence	3.
Sp. Gr.	7.3

Very inert to organic acids.

The present production of indium is around 14,000 pounds but sources are available to increase this production to an ample supply for indium coating on our present volume of tubes. Indium is now on the present basis of small production and market development a comparatively expensive metal. But the small amount used in coating even at the present price of $12.50 a troy ounce can give an indium-coated lead tube at the approximate cost that has been paid for the pure tin tube.

In experiments so far conducted, using metal slugs for extrusion in which the indium coating was .008" thick, no slugs have been used in which the indium is applied evenly to all sides of the slugs by plating. It is thought that this offers an economical basis of operation since a comparatively small plating unit, costing comparatively little, can easily be set up.

At any rate, indium, a metal very inert to organic acids, very malleable and easily adapted as a coating for lead tubes in exactly the same process and method as the tin coat, under no present restrictions for war use, is very definitely worth earnest research for the use of those companies now denied collapsible tubes and for the future security of the rest of the industry.

ALCOHOL REGULATIONS

The Toilet Goods Association has obtained the following interpretations of certain doubtful points in the recent modified Regulations No. 3 controlling denatured alcohol:

Q. In the manufacture of cosmetics and toilet preparations there is a considerable number of products manufactured under private brands for trade-mark owners. As I read the regulations it would be necessary for such trade-mark owners to make application to the District Supervisor in order to have such products sold and delivered to them by the actual manufacturer. Is this the intention of the Bureau, or would such trade-mark owners be embraced in the definition contained in paragraph 182.860 (a)?

A. It will be necessary for the trade-mark owners referred to in question (1) (a) to make application to the district supervisor of the district in which they are located in order to have products manufactured with specially denatured alcohol delivered to them by the actual manufacturer unless they come within the classifications of persons enumerated in Section 182.860 (a) of the revised regulations.

Q. Would a similar application be necessary in the case of inter-company transactions? For example, the sale by XYZ, Inc. (manufacturer) to XYZ Sales Company (wholly owned distributor)?

A. The above requirement would also be applicable to inter-company transactions.

Q. Would paragraph 182.862 prevent all rebottling or repackaging without the consent of the original manufacturer or distributor of the goods?

A. The consent of the original manufacturer or distributor of the goods has no bearing on the matter presented in question (2), as Section 182.862 of the regulations prohibits the rebottling, repackaging or relabeling (for sale) by persons other than the manufacturer and the bottler or distributor.

Congratulations

JOHN HUDSON MOORE Inc.

WINNER OF MAJOR AWARD IN ALL-AMERICAN PACKAGE COMPETITION

and double congratulations

FOR THEIR INGENUITY AND RESOURCEFULNESS IN DEVELOPING THIS PRIZE WINNING PACKAGE WITH A SWINDELL

STOCK BOTTLE

We're thrilled! For years we've been preaching the gospel that a good stock bottle plus labeling ingenuity would give you the advantages of smart packaging without a heavy investment in private moulds—and along comes John Hudson Moore, Inc., with our stock bottle C-39 and wins a Major Award in the All-American Packaging Competition!

C-39 is a smart bottle; it comes in sizes from ½ to 16 ounces. And it's just one of a regiment of Swindell stock bottles.

Drop us a line—let us help you with your packaging problem.

SWINDELL BROS., BALTIMORE, MARYLAND
200 FIFTH AVENUE, NEW YORK · ROBERTO ORTIZ—HAVANA, CUBA

When you think of bottles think of

Swindell

EVERYONE COLLECTS ON

*Packaging Insurance**

YOU DO

You cut down your operating costs with Packaging Insurance, the Alseco Rolled-On Method of sealing. Month after month Alseco Sealing Machines hum right along without lost time and expense for repairs or adjustments.

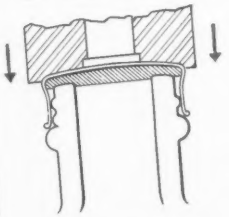
STORES DO

They rarely get a leaker or breather in a case or on the shelf. Alseco R-O (Rolled-On) Seals are tailor-made to seal each container securely. Greater security means fewer complaints from customers; less goods to return for credit.

CONSUMERS, TOO

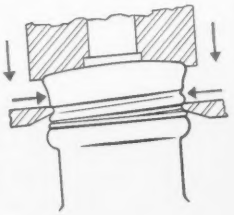
They find your product has stayed just as you made it. Also, they find that the Alseco R-O is easily removed and replaced. That's because of the tailor-made fit. The seals are never cocked, jammed, or wedged on the bottles.

***HERE'S WHY THE ROLLED-ON METHOD OF SEALING IS "PACKAGING INSURANCE"**



1. Plain-skirted Alseco Seal is uniformly seated. Under stationary top pressure, container lip is embedded in liner evenly all around.

2. While held in that position, threads are Rolled-On to conform exactly to threads on container. Each seal is tailor-made, fits perfectly.



Trade Mark Reg. ALSECO SEALS U. S. Pat. Off.

Tampering, pilfering and adulteration can be overcome with several types of Alseco Seals. That's another advantage of the Rolled-On Method of application.

Special sealing problems which standard types of closures do not answer satisfactorily can often be met with a special Alseco Rolled-On Seal. Typical are the special Alseco Seals developed for serums.

★ ★ ★

War has stopped the sale of Aluminum for seals. However, most types of Alseco Seals can be supplied in metals other than Aluminum.

TAILOR-MADE

ALSECO SEALS

ALUMINUM SEAL COMPANY, 1323 THIRD AVENUE, NEW KENSINGTON, PA... At your service: 28 years of experience building quality seals and sealing machines.

'UP A TREE'?

—call D&O

Why be "stumped" by today's perfuming problems when "D & O" probably can help you. For nearly 150 years, through many other trying times, Dodge & Olcott Company has supplied the needs of their customers.

• Whatever "stumps" you today—Aromatic Raw Materials, Essential Oils—or Perfume Compounds—"Call D & O".

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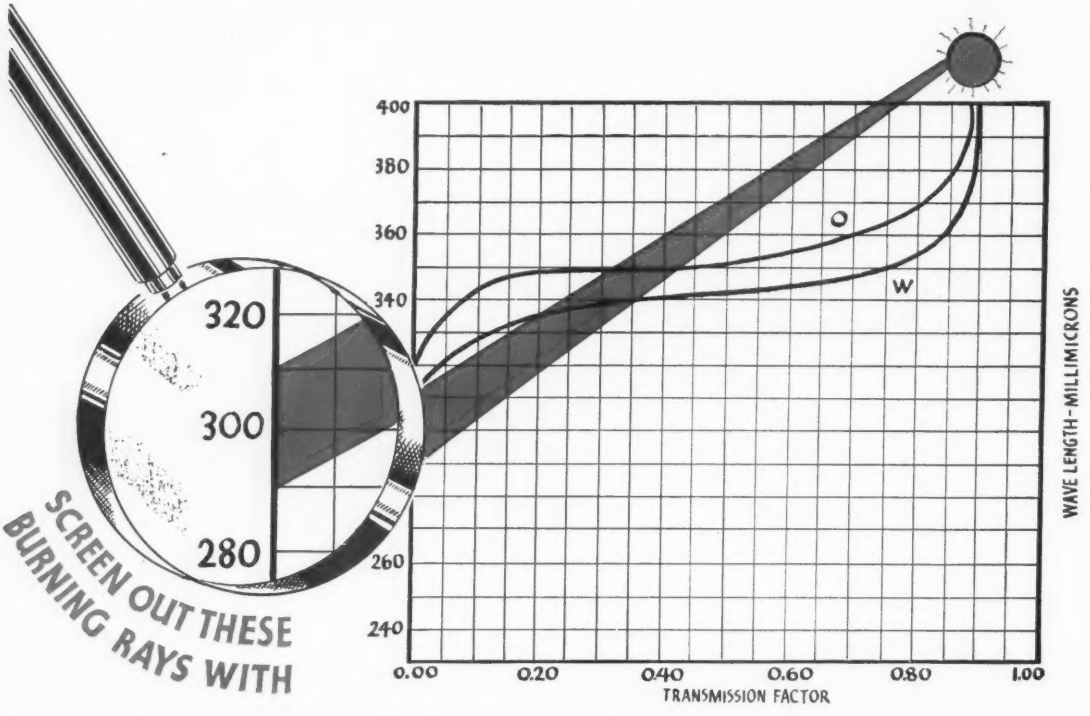
MAKE BETTER SUN-TAN PRODUCTS FOR LESS



SUNAROMES

. . . FELTON'S EFFECTIVE SUN SCREEN PERFUMES

Just consider the many advantages you can enjoy from a product that not only perfumes your sun-tan preparations most attractively, but which in itself makes them very effective screens against the burning rays of the sun. Then you'll understand why Felton's Sunaromes have been widely used in the manufacturing of so many successful sun-tan products.

Sunaromes are supplied in a number of delightful fragrances . . . and you'll be amazed to see how easy it is to make fine sun-tan preparations with them.

All you do is mix Sunaromes with the base you prefer . . . water gum, water alcohol, or even water alone. You can also use a liquid cream base, mineral oil, fatty oil and others. It's the Sunaromes that make them effective sun screens . . . and scent them so attractively. The protection is positive . . . and there is no problem of skin irritation.

FELTON Quality

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Write NOW for Samples and a leaflet containing complete data, prices and interesting formulas.

MERCHANDISING NEWS and PACKAGING NOTES

WARTIME PACKAGING: Packaging is very much the center of attention these days and in cosmetics, especially, the consumer has become more aware than ever of the preciousness of many things formerly taken for granted thanks to the W.P.B. release of April 28 which reads as follows: "American women can help the war effort by saving the increasingly precious metal containers in which they buy their lipsticks, their toiletries and other beauty aids.

"Adequate supplies of lipsticks, cleansing creams, powders, and other beauty items will probably be available, the Toiletries and Cosmetics Branch said, but women must make certain that there is no waste of containers, many of which will no longer be manufactured because of metal and plastic shortages.

"The Branch urged women not to throw away a lipstick container made of metal or plastic after the lipstick itself is used up. If women save these containers, they will probably be able to buy adequate quantities of refills. This has been the procedure adopted in England since the outbreak of the war, and is a practice which has generally been followed on the European Continent for many years.

"Other cosmetic containers which women were urged to save are cleansing cream and cold cream jars, and all types of bottles, including nail polish bottles. Expecial care should be given to preserving the closures which most often are made of metal or plastic.

"If the necessity for use of nearly all kinds of metals in the war effort requires that jars be made only with paper, cellophane, or other non-permanent lids, the woman who has saved her old jar can transfer the cream or other preparation into it.

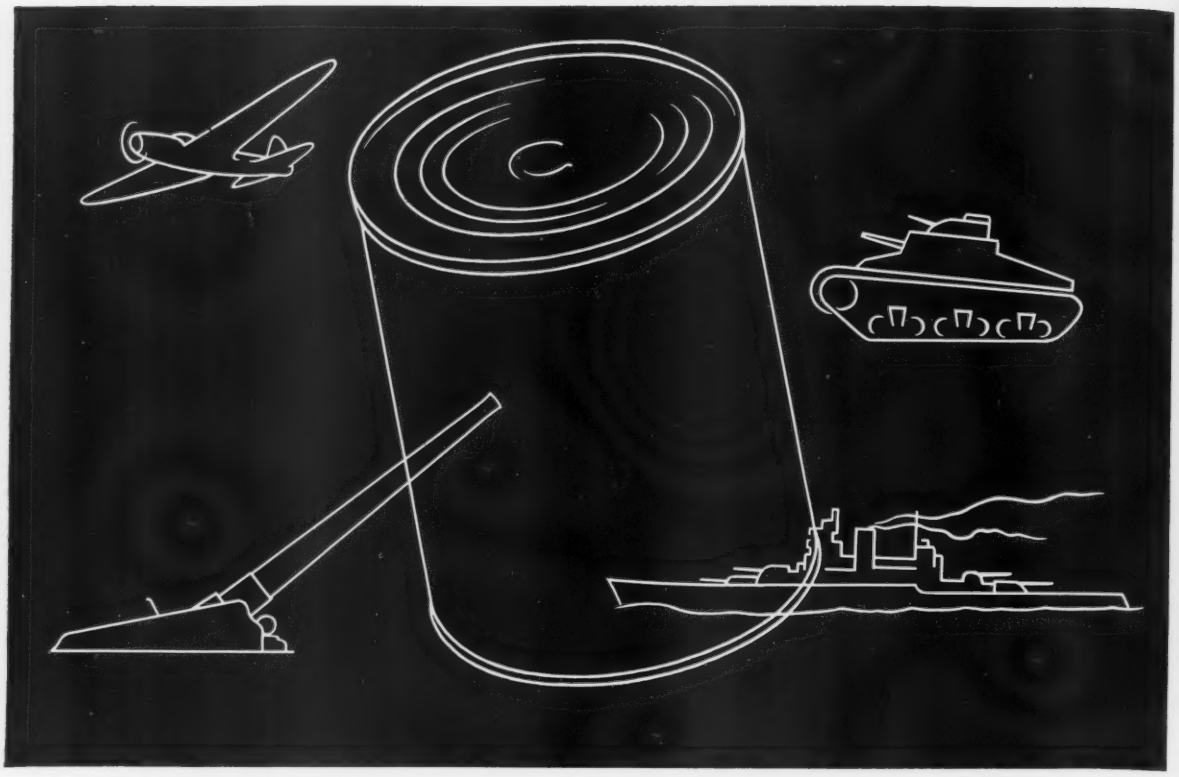
"In addition, the Branch said that women should save mascara cases, vanities, and rouge and powder compacts, since only refills will be available in quantity in the near future.

"The supply of lipsticks and most cosmetics items themselves will probably be adequate if women use no more than they need."

Cosmetic manufacturers, who have been inclined to be slightly pessimistic at the O.P.A.'s failure to mention their products specifically in the order relating to price ceilings, will in general be cheered by the W.P.B. release which says that supplies of cosmetics themselves "will probably be adequate." They may also be confused by the W.P.B.'s reference to "paper, cellophane, or other non-permanent lids" since so far as anybody knows the famous O.P.M. order L-20 forbidding the use of cellophane in packaging cosmetics still holds good. It may be assumed, unless evidence to the contrary is forthcoming, that the W.P.B. reference to cellophane in this connection was a slip of the tongue.

However, the reference to paper serves once more to emphasize the importance of this material in the present restricted packaging picture. Although the recent Packaging Show while there was still a considerable supply of "pre-war" packages for display purposes, such of the "war" packages as were visible and much of the discussion in meeting centered about paper. Manufacturers in this field will do well to use the list of Charles L. Sheldon, deputy chief of the containers branch of the War Production Board, as a general guide in all discussions of future packaging. Speaking at this meeting Mr. Sheldon said that the current supply position of container materials, in the order of their availability is as follows: 1 paper, 2 fiberboard, 3 glass and lumber, 4 cooperage, 5 cellophane, 6 plastics, 7 metals, and 8 rubber.

THE COSMETIC TREND: With most of their summer business placed store buyers begin to look over the fall situation. Business is expected to be good, better even than now, but local conditions may affect buying policies more than usual. Metropolitan and other large city markets begin to feel the effect of curtailed and more costly travelling facilities. The minor periphery towns are getting a large share of the business that formerly went to large city toilet goods counters. There is no all-embracing rule of course, but some distributors think that these smaller town stores are buying more actively and better grade merchandise than do their large city competitors. Reason is the influx of low earning customers into the large city markets which changes the buying picture while the stay-at-home



PACKAGES TO PROTECT AMERICA

Producing packages to protect America is the most important job Continental ever tackled. What these packages are, their size, or appearance is unimportant. The real significant thing is that government, like industry, has found that the tin container is an all-around, safe, economical package.

Millions of tin packages are needed to carry food and supplies to our armed forces, our allies and all America. Needless to say, tin plays a vital part in this tremendous production. Tin is also needed in planes, guns, and ships. We are doing our best not only to make the needed containers, but also to save tin by perfecting changes and complying with orders to stretch present supplies.

Looking into the future we see many new packaging ideas—ideas which must be held in abeyance until another day. But, for those who are planning ahead, we offer the services of our packaging engineers, research men and designers. They will be glad to work with you.

CONTINENTAL CAN COMPANY

NEW YORK · CHICAGO · SAN FRANCISCO · MONTREAL · TORONTO · HAVANA

trade in the periphery cities begins to feel the effect of better earnings and, incidentally, reduced outlets for its spending capacity.

Counters show plenty of low priced cosmetics but the general impression is now that the trend is definitely in favor of better grades and larger sizes. Prices have remained remarkably steady for all standard brands and buyers do not expect any change for fall in this respect. However, companion articles are introduced by many houses and these generally sell at higher prices today. Buyers take it that savings on packaging changes in formulae (due frequently to the non-availability of the more costly ingredients) will help manufacturers to cushion the effect of heavy price increases of some materials. As long as there is no noticeable change in the quality of the article and if the consumers remain satisfied, buyers feel that formula adjustments are up to the manufacturer.

Fashion trends are naturally restricted. Bouquets lead in scent preference for perfumes both in branded and non-branded merchandise. However, there is a tendency to push simple flower scents in toilet waters and strong American undercurrent.

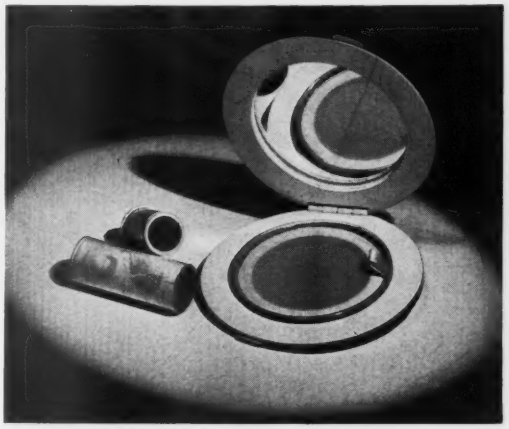
As to shades, counters are starting to play safe by concentrating heavily upon one or the other shade of their selection. Doing so is supposed to prepare customers for less varied shade cards and make them less inclined to look for the slow selling outshades. While there is still sufficient variety to serve the individualistic customer now she may ultimately be compelled to take what she can get. Led by the evidence of their counter performance most buyers predict a decisive swing to natural reds with possible slight variations to the yellow and blue, to serve summer requirements.

Rightly or wrongly buyers expect that they will have all the cosmetics they need for their counters. Occasionally resentment is expressed against statements about shortages etc. which are permitted to reach the general public by way of the daily press. The feeling is that shortages have been over-published and that substitutes generally can be found before the shortage became acute.

In spite of all the feverish work on new types of lipstick cases, several of the manufacturers are advocating the use of refills for the old metal cases. This conserves metal, is economical because refills usually retail for about half the price of the complete case, and still supplies the consumer with her favorite shades in her favorite metal lipstick case. Because of the low price of the refills it is easy to sell two or more shades at a time.

A good idea to solve the new shades for make-up problems appears to be in choosing one or two interesting and successful shades from the line and use them as the theme for spring, or summer, or fall. No need to change names or shades, just concentrate on one or two shades which fall in with the general fashion shade picture for any particular season.

Unfortunately, the necessity for turning in a used tube for each new tube bought, has considerably hampered the sales of men's gift sets which include shaving cream in tubes. On the other hand, fortunately, most houses have many types of men's sets so that a customer without a used tube may be switched to a set which has the shaving soap in some other form.



BURT'S LIPSTICK HOLDER AND COMPACT CASE: Speaking of paper lipstick holders and compact cases as we were only last month, here are the latest members of the collection. These are samples which T. S. Duncanson of the F. N. Burt Co. has been good enough to send us. Well known as large makers of paper boxes for the cosmetic industry, the Burt company has been working for some time on this development.

The lipstick holder is of the swivel type and those familiar with the paper tube construction will realize that the spiral construction permits a ready carrier when the tube is made with a space between the edges of the paper board instead of making the edges meet, as in the ordinary paper tube. The compact shown is the single variety although doubles and triples are also equally possible. The closure on the compact is obtained simply by the friction fit between the powder container and the recessed edges leading to the mirror. The ends of the lipstick container are made of vegetable ivory and the hinge of the compact of plastic.

FACE POWDER AND LIPSTICK HEAD "MISS MOST" LIST: Face powder and lipsticks would be missed most by women according to a survey made by Fact Finders Association, Inc., for "Printers' Ink" April 24 issue. The investigation presents the composite reaction of 1000 women in nine cities across the country towards non-durable consumer goods not in the essential category. Given a list of twenty such products, 61.6 per cent. of the women interviewed said they would miss face powder most. Lipstick furnished a close second with 59.6 per cent., while deodorants took third place with 33.2 per cent. Sheer stockings took fourth place with 25 per cent., while face cream was fifth with 23.3 per cent.

ADDING "SHIPS" TO THE CONVOY

with paper boxboard and folding cartons

HOW IS paper boxboard adding to our merchant marine? How are folding cartons helping answer the challenge of stealthy torpedoes on the sea lanes of Democracy? They're doing it by *"enlarging"* the ships already in service. By helping every ship carry a larger load of food, weapons, ammunition, supplies to our allies and fighting outposts.

Think how many more thousand "square meals" a single ship can pack in its hold . . . when bulky foods are powered or dehydrated, then packaged in folding cartons that stack and pack as snugly as those on your grocer's shelves.

Paper boxboard has enlisted for hundreds of war uses —from space-saving cartons for food and medical supplies to moisture-proof tubes for giant shells. And research in the boxboard industry goes on, night and day, seeking *new* ways to serve, *new* ways to hasten the day of victory.

The GARDNER-RICHARDSON Co.

Manufacturers of Boxboard and Folding Cartons

MIDDLETOWN, OHIO

GARDNER-RICHARDSON — FROM PULP TO FINISHED PRODUCT — ENGINEERED PRECISION

Sales Representatives in Principal Cities: PHILADELPHIA • CLEVELAND • CHICAGO • ST. LOUIS • NEW YORK • BOSTON • PITTSBURGH • DETROIT

According to this story, "some odd regional differences are to be noted. Were the decision left to Eastern women, lipstick, rather than powder, would be the item missed most. Western women, however gave powder a substantial edge. Deodorants are much more important to Eastern girls with 41.2 per cent. compared with the West's 25.2 per cent. Face cream is held far more dear in the West, where it rates third place, than in the East, where it is sixth."

THE GREATER MILWAUKEE MARKET: According to the nineteenth annual survey of the Greater Milwaukee Market, conducted by the Milwaukee Journal, 42.2 per cent. of the families bought their cosmetics and toilet preparations in department stores; 22.9 per cent. bought them in independent drug stores; 17.9 per cent. in chain drug stores and 17 per cent. in the 5 & 10c stores. As far as drug products were concerned the independent drug stores received the business of 62.1 per cent. of the families; chain drug stores, 27.7 per cent; department stores 9 per cent. and 5 & 10c stores, 1.2 per cent.

The use of liquid dentifrice decreased to 22 per cent. in 1941 and in 1942 was down to 17.2 per cent. whereas both tooth paste and tooth powder increased in preference this year. Teel continued to be the overwhelming consumer preference being the choice of 78.8 per cent. of the families buying liquid dentifrices.

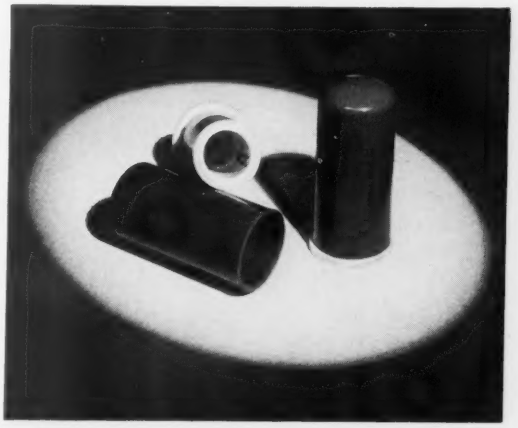
From 59.2 per cent. in 1940 the use of tooth paste increased to 61.4 per cent. in 1941 and this year advanced to 65 per cent. The leading brands were Colgate, 26.6 per cent.; Pepsodent, 25 per cent. and Ipana, 15.5 per cent. Tooth powder was preferred by 53.1 per cent. of the families this year. Of these 47.7 per cent. used Dr. Lyon's and 15.6 per cent. used Pepsodent.

Liquid hand lotion was covered by the survey for the first time since 1936. In that year 66.9 per cent. of the families reported on its use while this year the percentage increased to 74.6. Jergens was preferred by 30.2 per cent. of the families; Campana Balm by 22.1 and Hinds by 16.

As for liquid shampoos 24.7 per cent. of the families expressed a preference for Drene; 23.8 for Fitch's and 13.1 for Watkins. Pond's headed the list of preferred face creams with 23.7 per cent. and it was followed by Lady Esther with 20.9. Lady Esther was the most popular face powder, being the choice of 21.1 per cent. Coty accounted for 17.3 per cent. and Max Factor for 10.9 per cent. Listerine continues to be the favorite mouth wash, being preferred by 52.3 per cent. of the families reporting.

This year 39.9 per cent. of the men reported the use of regular shaving cream. The leading brands were Palmolive, 38.1 per cent.; Lifebuoy, 15.5 per cent. and Williams 13.4 per cent. Of the 22.1 per cent. who reported that they used brushless shaving cream 19.3 per cent. preferred Palmolive; 16.2 per cent. Barbasol; 14.6 per cent. Burma Shave and 13.2 per cent. Molle.

PLASTIC LIPSTICK CONTAINER: Harry Broder of 11 East 48 st., New York, is currently marketing an all-plastic lipstick container whose advantages he describes as follows: "First, a non-smudge cap; free wheeling principle which prevents the stick from rising until the cap is removed, even though the swivel base is turned. Thus the cap is always clean, sightly, and sanitary. Second the container cannot come apart. A special locking device permanently seals the unit, making the container practically indestructible. Third, friction-fit sealing insures complete closing, with the added safety of a 'quick catch.' Fourth, this is the only plastic container with a double swivel. Thus the carrier rides on two spirals which keep the stick from wobbling, tilting or jamming."



PAPER CLOSURES: One thing we never thought we'd live to see is a screw cap made of paper but according to a promotion piece we have received from W. G. Keith of 1038 Beacon St., Brookline, Mass., "The Peabody Coiled Cap is Made of Paper." After modestly admitting that the cap is "unquestionably superior to any screw cap ever produced" the description continues as follows:

"Fabricated like a sky scraper and comparatively as strong. Steel skeleton strength is completely protected from contents of package. Positive resistant decoration finishes for any package content. Choice of perfect white or colored hard enamel threads. Peabody "All-proof" sanitary liners. Liner revolves but is mechanically locked against accidental removal."

The description continues with the designs, colors, depths, etc. in which the cap may be produced and then goes on to say that:

"Magnificently merchandised double cap appearance and efficiency at less cost than ordinary single caps. The Peabody coiled cap uses no tin plate or aluminum . . . "

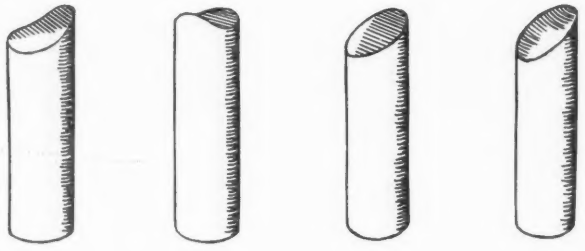
We haven't seen these caps yet and don't know just how they are made although the sentence which starts "steel skeleton strength . . . " may give the clue.

SPECIAL ANNOUNCEMENT

KOLMAR LABORATORIES

MILWAUKEE NEWARK

We have a patent and patents pending on the PERFECT POINT LIPSTICK illustrated below.



This announcement is made primarily to acquaint the trade with the above facts.

☆ ☆ ☆

We are prepared to make reasonable arrangements with other manufacturers of lipsticks and license them to make the above points. We will not tolerate any infringements.

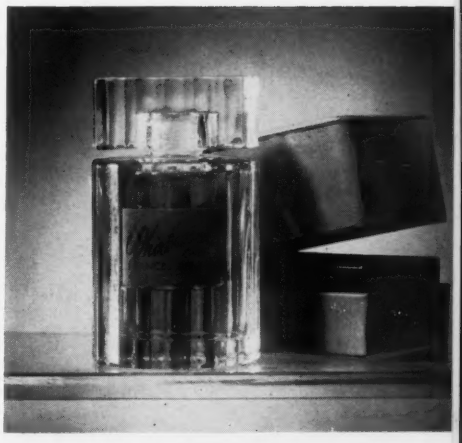
PARFUMERIE DE RAYMOND

Parfumerie de Raymond offers an interesting new packaging of Deviltry perfume, cologne, toilet water, dusting powder, talc, and sachet. Bright red satin and a suede-like red mask are combined to dramatize the packages of the intriguing Deviltry sequence.

PARFUMERIE DE RAYMOND

FRANCES DENNEY

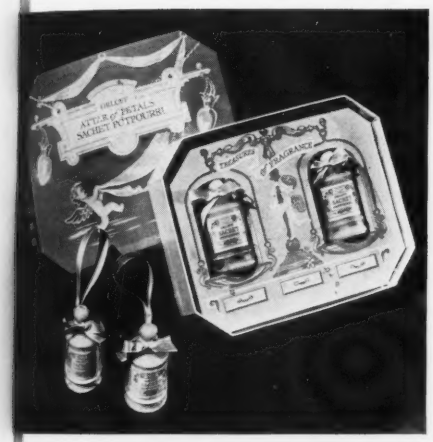
Whirlwind is the name of Frances Denney's newest perfume presentation. It is a light-hearted, flirtatious perfume with a spicy freshness. The Whirlwind fragrance also comes in cologne to match the perfume, cream cologne, dusting powder, and a powder mit. It is attractively packaged in aquamarine and dubonnet.



FRANCES DENNEY

JEAN VIVAUDOU CO. INC.

Jean Vivaudou Co. Inc., presents Orloff "Attar of Petals" Potpourri sachets in the dainty "treasures of fragrance" package. The sachets are composed of dried flower petals embedded in a wax-like composition scented with Attar of Petals, and pressed in the shape of miniature apothecary jars. The miniatures also have a ribbon bow with a loop by which they may be hung conveniently on hanger or hook.



JEAN VIVAUDOU CO., INC.

LUCIEN LELONG

Lucien Lelong is presenting almost all of its fragrances in a purse flacon size. The attractive little bottles are packed in the same style boxes as the regular sizes. The fragrances available include Balalaika, Jabot, Tailspin, Opening Night, Impromptu, Indiscrete, Mon Image and Whisper.

LUCIEN LELONG

LYSANDA, INC.

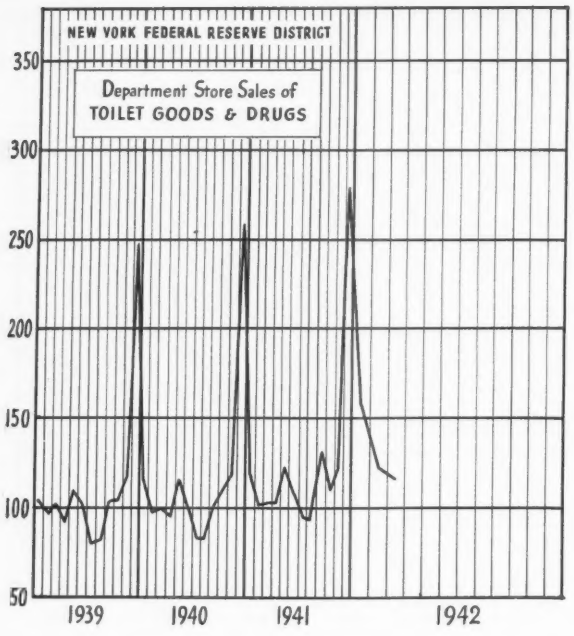
Lysanda, Inc., is introducing "Nieka" fragrance, a blend of refreshing gaiety with subtle undertones. Nieka is bottled in clear crystal flacons, adorned with the familiar Lysanda figurine. It is available in Fragrance (toilet water), and bath oil.

LYSANDA, INC.

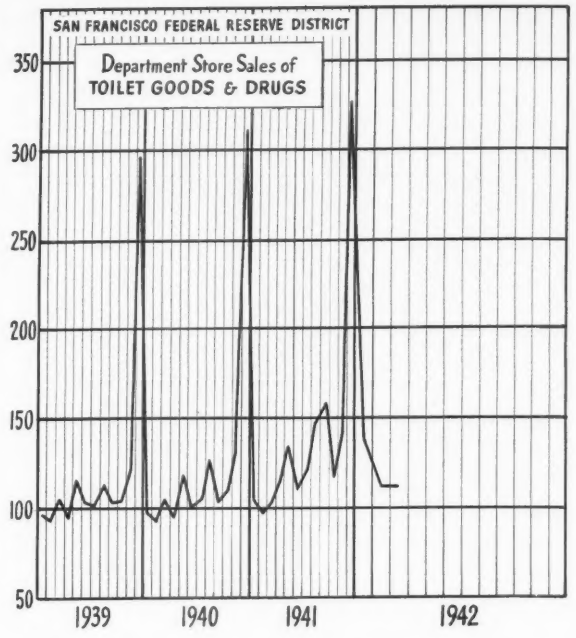
DOROTHY GRAY

Dorothy Gray has packaged make-up in a seashell—a choice of seven make-up shades of rouge and lipstick—packaged in a pearly pink seashell. A huge magnum lipstick, and dry rouge in a plastic case, are neatly niched in a realistic shell, a reproduction of an actual Sea Island, Georgia shell, which inspired the idea. On the rosy side, there's Crimson Glory and Nosegay; on the true red side, All Clear Red and Siren; Brass Band for a golden red and South American to wear with strong costume colors, and Nut Brown Red for all nut-brown maids.

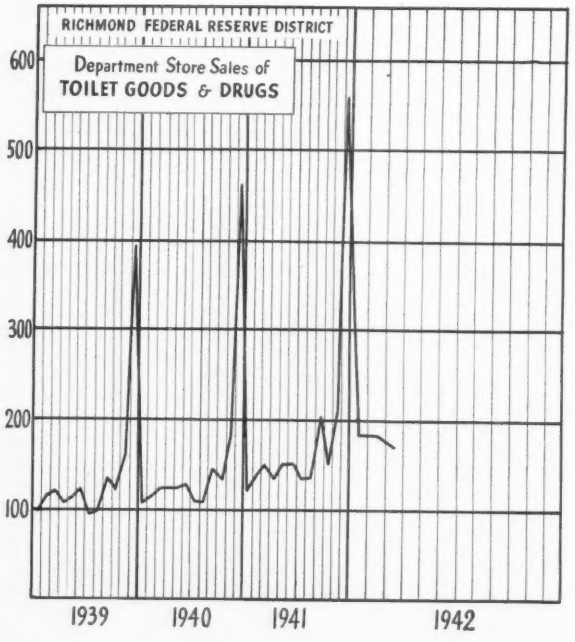
DOROTHY GRAY



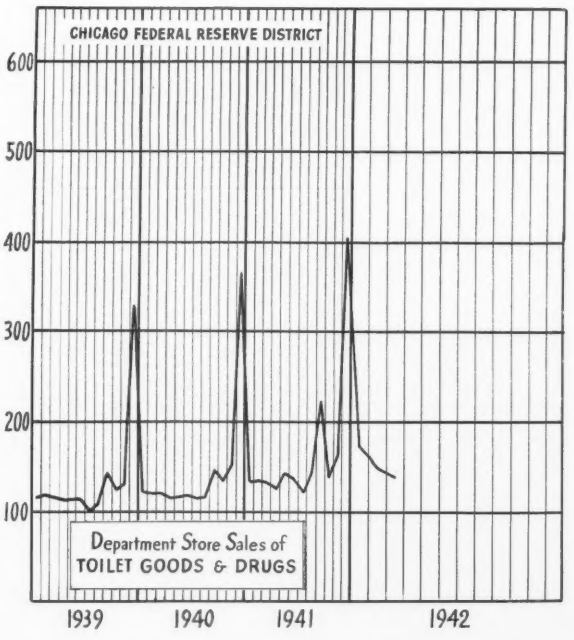
Sales of toilet articles and drug sundries by department stores in the New York Federal Reserve District were 13 per cent. higher in March 1942 than in the same month of 1941. This corresponds to unadjusted index numbers of 116.2 for March 1942, 122.3 for February 1942, and 102.8 for March 1941.



Sales of toilet articles and drug sundries by department stores in the San Francisco Federal Reserve District were 8 per cent. greater in March 1942 than in the same month of 1941. This corresponds to unadjusted index numbers of 112.2 for March 1942, 112.1 for February 1942, and 103.9 for March 1941.



Sales of toilet articles and preparations by department stores in the Richmond Federal Reserve District were 13 per cent. greater in March 1942 than in March 1941. This corresponds to unadjusted index numbers of 170.4 for March 1942, 182.9 for February 1942, and 150.8 for March 1941.



Sales of toilet articles and drug sundries were 6 per cent. greater in March 1942 than in the same month of the preceding year. This corresponds to unadjusted index numbers of 139.4 for March 1942, 148.2 for February 1942, and 131.5 for March 1941.

U.S.I. ALCOHOL NEWS

May ★ A Monthly Review of Technical Developments for Chemists and Executives ★ 1942

New Essential Oil Sources Sought in U.S., Latin America

Goal is Increased Production Of Domestic Natural Materials

While perfume chemists have been amazingly successful in developing synthetic materials to replace imported essential oils, supplies of certain of these synthetics are being limited by raw material shortages, and as a result interest is being focused on the possibility of producing natural essential oils from trees and plants grown in near-by localities.

Interesting possibilities are offered, for example, by the cedar tree. Oil of cedar leaf is now being used in tincture of green soap and, in addition, an oil distilled from the cedar wood itself is being commercially produced in this country for use in perfumes, cosmetics, and soaps.

Some of the less well known essential oils are also attracting new interest under present conditions. A paracoto bark oil, originating in Bolivia, may be useful in heavy compositions and in soap. Saffron oil, which has been prepared from fresh saffron by extraction first with petroleum ether and then with ethyl ether, might be used in finer perfumes.

Steps are being taken also to supplement supplies of other materials for the manufacturers of drugs, cosmetics, and related products. Production of babassu nut oil is being developed in Brazil as a possible replacement for coconut and palm oils in soap. Synthetic camphor is being produced in America's turpentine belt. An extensive program of belladonna planting will be undertaken soon.

Some of the other developments already described in U.S.I. Alcohol News include coffee blossom oil, suggested as a replacement for jasmin, mimosa, and other delicate blends; oil of hops from domestic sources; and pine oil produced from gum turpentine.

Properties of Ethyl Formate Lead to Wide Variety of Uses

U.S.I. Product is Employed in Pharmacy, in the Fumigation of Tobacco and Foods, and in Synthesis of Many Products

The unusual physical, physiological, and chemical properties of ethyl formate have resulted in a very wide range of applications for this U.S.I. product in the pharmaceutical, food, tobacco, and organic chemical industries. Among its outstanding characteristics are its analgesic, anti-spasmodic, and rubefacient properties, its efficacy as a larvicide, and its chemical reactivity.

Its applications in pharmacy include administration in liquid form as a remedy for diarrhea; in vapor form as an inhalant; and externally as a rubefacient.

Use as Larvicide

In the food and tobacco industries, its chief interest lies in the fact that, in addition to being an excellent larvicide and fumigant, it evaporates completely, leaving no residual odor. For this reason, it can be successfully employed on the packing line for the fumigation of individual packages.

In Chemical Synthesis

Some of the most interesting chemical reactions of ethyl formate are its condensations with other esters in the presence of sodium ethoxide (sodium ethylate). A typical case is its reaction with ethyl beta-ethoxypropionate to give ethyl alpha-formyl-beta-ethoxypropionate, an intermediate in the preparation of Vitamin B_1.

Other reactions of this type are: with ethyl succinate to give ethyl formylsuccinate; and with ethyl acetate in the presence of metallic sodium in benzene to give the sodium compound of ethyl formylacetate.

Reactions with Ketones

Similarly, ethyl formate may be condensed with ketones in the presence of sodium ethoxide to give hydroxymethylene ketones (also known as beta-ketoaldehydes). For example, with acetone there results the sodium compound of hydroxymethylene-acetone, from which may be obtained triacetylbenzene, 3-methyl-pyrazole, and methylisoxazoles.

Other Reactions

Miscellaneous reactions of ethyl formate include:

With anhydrous ammonia in ethyl alcohol to give formamide.

With ethylmercaptan and hydrochloric acid to give ethyl ortho-thioformate.

With hydrazine to give formylhydrazine (from which triazole may be obtained) and diformylhydrazine.

U.S.I. will gladly give additional information on the properties of ethyl formate.

TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

A new hand cream is especially designed for removing ink stains, particularly those of hectograph ink, according to the maker. It is said to cleanse the skin quickly and easily, leaving it soft and moist. **(No. 570a)**

A drum carrier is reported suitable for placing 55-gallon drums on skids, or for removing them. In addition, to permit easy moving of the drums from one place to another, the carrier is adapted for lifting them 14 inches above the floor. **(No. 571a)**

A new synthetic essential oil is said to duplicate the odor characteristics of natural Ylang Ylang with exceptional fidelity, and to be suitable as a replacement product for Cananga also. **(No. 572a)**

New work gloves are described as being made of a synthetic plastic that is inert, non-toxic, odorless, and tasteless. Maker says that the material is not subject to aging or to attack by acids, alkalis, alcohol, hydrocarbons, or oils. **(No. 573a)**

A non-removable cap for collapsible tubes is said to permit accurate control of flow of such materials as shaving creams or dentifrices. Cap is provided with a valve so constructed that it is moved toward or away from the dispensing opening by turning the cap. **(No. 574a)**

Collapsible tubes made of non-metallic materials are now undergoing test by a leading tooth paste manufacturer, it is reported. It is believed that the tubes may be made available to other manufacturers during the present shortage of metal for tubes. **(No. 575a)**

The cedar tree and the coffee blossom are among the newer sources of essential oils which are attracting interest in the perfume, cosmetic, and soap industries.

U.S.I. INDUSTRIAL CHEMICALS, INC.

60 EAST 42ND STREET, NEW YORK

CHEMICALS INDUSTRIAL ANTI- SOLVENTS ALCOHOLS FREEZE USI SERVICE TO INDUSTRY

BRANCHES IN ALL PRINCIPAL CITIES

May ★ U.S.I. ALCOHOL NEWS ★ 1942

Drug Substitutes Allowed During Current Shortage

Use of substitute materials recently authorized by the National Formulary and the U. S. Pharmacopoeia is expected to relieve a number of the present shortages.

The National Formulary has authorized the substitution of extract of stramonium for extract of belladonna in compound pills of cascara. Other changes include authorization to substitute benzaldehyde for oil of bitter almond as a flavoring ganet in official preparations, and permission to omit rose water from cold cream. Use of distilled water in place of the rose water is also permitted, as well as the use of persic oil in place of almond oil.

The U. S. Pharmacopoeia, because of the shortage of Mediterranean squill, has recognized a variety of this drug which comes from India. Ergot may be imported under less rigid packaging restrictions, provided it is dried, assayed, and repackaged immediately after entry. Amaranth, a red coloring derived from coal tar, is suggested as a substitute for tincture of cudbear.

Alcohol Preparations Help To Relieve Itching Skins

Relief from pruritus—defined as an itching condition of the skin without visible manifestations of an actual skin ailment—can frequently be obtained through the use of alcohol-containing preparations, a number of authorities have reported.

Since cooling of the skin is regarded as one of the most effective measures in treating pruritus, the tendency of alcohol to evaporate rapidly appears to be advantageous. An evaporating lotion that is described as antiseptic as well as antipruritic consists of 0.45 gm. of salicylic acid and 90 cc. of 50% alcohol.

Another suggested lotion consists of the following ingredients:

Phenol	8.0 gm.
Thymol	1.0 gm.
Resorcinol	3.0 gm.
Sodium borate	2.0 gm.
Glycerine	8.0 gm.
Alcohol	40.0 cc.
Water, to make	500.0 cc.

Also suggested is a dusting powder, said to be particularly helpful for dry skins. The powder consists of 0.5 gm. of menthol, 5.0 cc. of alcohol, and 100.0 gm. of talc. Here the function of the alcohol is to assure dispersion of the menthol in the talc.

Alcohol Infusions Supply Additional Bodily Energy

SEATTLE, Wash.—Studies recently reported here on the effects of intravenous alcohol indicate that alcohol's value is greatest in cases in which the patient requires an additional source of bodily energy. In the case of localized wasting diseases, for example, alcohol infusions appear to have a definitely beneficial effect.

In certain types of postoperative cases, it has been found that alcohol infusions of 2.7 to 5.4% can be given with the same safety as ordinary glucose infusions, and that they have the added advantage of greatly increasing caloric value without the disadvantage of increased volume.

Another advantage of the alcohol infusions is their sedative effect, which has frequently permitted a reduction in the number of postoperative morphine injections.

Pleasant-Tasting Vehicle Developed for Vitamin B1

LAFAYETTE, Ind.—A new Elixir Raspberry has been developed here to provide a pleasant-tasting vehicle for thiamine hydrochloride and other synthetic B complex vitamins.

The elixir, it is reported, may also be used in other types of preparations, since experiments indicate that it is compatible with salicylates, bromides, iodides, citrates, and a number of other products.

Formula for the Elixir Raspberry is as follows:

Benzoic acid	1 gm.
Tincture Cardamon Compound	5 cc.
Alcohol	150 cc.
Glycerine	110 cc.
Syrup Raspberry, N.F.	160 cc.
Distilled water, q.s. ad	1000 cc.

Pectin May Partly Replace Acacia in Oil Emulsions

KNOXVILLE, Tenn.—That acacia can be partially replaced by pectin in making oil emulsions is indicated by the results of experiments reported here. Approximately half the acacia can be replaced by a much smaller quantity of pectin. It is also possible to use pectin in preparing pastes of sulfanilamide and sulfathiazole, it is reported.

One gram of pectin was found equivalent in emulsifying power to about 12.5 grams of acacia.

CHEMICAL BRIEFS

This column lists a few of the many applications of U.S.I. products. Further information on these applications may be obtained by writing to U.S.I.

Ethyl acetoacetate has been suggested as an ingredient of colognes, perfume compositions, and toilet waters, in order to lend a freshness to the odor. In addition, it is used as a starting point in the manufacture of such compounds as ionone and jasmone, as well as of a number of pharmaceuticals, chief among which are antipyrine and amidopyrine. **(C10)**

U S I

Normal butyl acetate is one of the most widely used of the medium-evaporating nitrocellulose solvents. In the cosmetic industry, it has found its chief use as a solvent in the manufacture of nail enamels. Currently, its outstanding advantages as a solvent have caused the major portion of available production to be diverted to the formulation of finishes for urgently needed war equipment. **(C11)**

U S I

Ethyl phthalate has found favor in the perfume industry because of its unusual effectiveness as a fixative. More widespread applications are as a plasticizer for cellulose acetate plastics. Both as a fixative and as a plasticizer, its desirability is enhanced by its freedom from odor. Raw materials shortages at present make it difficult to fill the demand for ethyl phthalate. **(C12)**

U S I

Ethyl ether, because of its solvent properties, has many uses in extraction and analysis. It is a particularly useful chemical for the extraction of fats in the laboratory analysis of oils and soaps. It is used also in the purification of a number of chemicals by extraction and crystallization. **(C13)**

U S I

Amyl Alcohol, Refined, is employed as a raw material in the manufacture of fine chemicals and pharmaceuticals, as well as for research purposes. Because of the care necessary in its production, the cost of amyl alcohol is relatively high. For many applications, equally satisfactory results can be obtained with fusel oil, refined, which can be produced more economically, and which resembles amyl alcohol in most important respects. **(C14)**

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*Solox Proprietary Solvent
*Solox D-1 De-icing Fluid

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Amyl Acetate
Butyl Acetate
Ethyl Acetate

OXALIC ESTERS
Butyl Oxalate
Ethyl Oxalate

PHTHALIC ESTERS
Amyl Phthalate
Butyl Phthalate
Ethyl Phthalate

OTHER ESTERS
*Diatol
Ethyl Carbonate
Ethyl Chloroformate
Ethyl Formate

INTERMEDIATES
Acetoacetanilide
Acetoacet-ortho-anisidide
Acetoacet-ortho-chloranilide
Acetoacet-ortho-toluidide
Acetoacet-para-chloranilide
Ethyl Acetoacetate
Ethyl Benzoylacetate
Ethyl Sodium Oxalacetate

ETHERS
Ethyl Ether
Ethyl Ether Absolute—A.C.S.

OTHER PRODUCTS
Acetone
Collodions
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*Curbay Binders
*Curbay X (Powder)
Ethylene
Ethylene Glycol
Nitrocellulose Solutions
Potash, Agricultural
Urethan
*Vacatone

*Registered Trade Mark

NEWS

Associations

Check Given to Red Cross

The Drug, Chemical and Allied Trades Section of the New York Board of Trade at the regular meeting of its executive committee April 30 at the India House, presented to Leon Fraser, chairman of the American Red Cross War Fund of Greater New York, a check for $6,112.72. This represented the net proceeds from the section's seventeenth annual banquet held March 12 at the Waldorf-Astoria.

Proprietary Association Meeting

The Proprietary Association will hold its 60th annual convention at the Hotel Biltmore, New York, Monday, Tuesday and Wednesday, May 18, 19 and 20.

The first session Monday morning, May 18, will be a meeting of the Scientific Section under the chairmanship of Dr. George F. Reddish, Lambert Pharmacal Co., St. Louis. After opening remarks by Charles S. Beardsley, president of the association, Dr. E. C. Merrill, director and chief chemist, Department of Research and Technology, United Drug Co., Boston, will speak on, "Changes and Trends of Medicinal Drugs as Created by War Influence."

The meetings of the section will continue throughout the day until the program is completed. Other speakers will be: Dr. W. L. Sampson, Merck Institute of Therapeutic Research, Rahway, N. J.—"Vitamin Research in the Present Emergency"; Dr. Walter Compton, medical director, Miles Laboratories Inc., Elkhart, Ind.—"The Use of Research by the Proprietary Medicine Manufacturer" and "A Progress Report on the Institute for the Study of Analgesic and Sedative Drugs"; Dr. Thomas Lewis, S. B. Penick & Co., New York—"A Progress Report on the Supply of Botanicals"; Dr. James C. Munch, Upper Darby, Pa., and Dr. Herbert N. Cobe, School of Pharmacy, Temple University, Philadelphia—"A Progress Report on the Anthelmintic Investigations during 1941." Also at the meeting of the Scientific Section L. W. Hazleton, Ph.D., assistant professor, and Frank Fortunato, M.S., research associate, holders of the Proprietary Association research grant at the George Washington University School of Pharmacy, will report on their progress.

A round table discussion following the addresses will be led by Dr. F. J. Cullen, executive vice-president of the Proprietary Association.

The Foreign Trade Section will meet Monday afternoon. J. D. Bohan, the Centaur Co., Rahway, N. J., will preside at the meeting which will be addressed by Charles C. Concannon, industrial consultant, Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce; L. A. Barber, chief, Drug and Medicinal Section, Bureau of Foreign and Domestic Commerce; and by a representative of the Board of Economic Warfare.

The Veterinary Section will hold a dinner meeting Monday at 6.30 and general sessions will be held Tuesday and Wednesday. At the first general session Tuesday morning Carroll Binder, foreign editor, *Chicago Daily News*, will speak on "The United States in the World War." Speakers Tuesday afternoon will be: Hon. Bruce Barton, president, Batten, Barton, Durstine and Osborn, Inc.; Dr. F. J. Cullen, executive vice-president, the Proprietary Association and Ernest Little, dean, College of Pharmacy, Rutgers University.

Wednesday morning Wallace Werble, editor "Food, Drug and Cosmetic Reports" will discuss "The Washington Front" and Dr. Allen A. Stockdale of

Leon Fraser receives from S. B. Penick Jr. the check for the American Red Cross. Others in the picture are John C. Ostrom, secretary of the Drug, Chemical and Allied Trades Section of the New York Board of Trade; V. E. Williams, vice-chairman; and R. B. Magnus, treasurer.

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the National Association of Manufacturers will speak on "Morale for Victory." Dr. Robert L. Swain, editor, *Drug Topics*, will speak Wednesday afternoon.

Luncheons will be held at the Hotel Biltmore Tuesday and Wednesday.

T.G.A. Meeting

Because of present world conditions, the convention of the Toilet Goods' Association to be held at the Waldorf-Astoria, New York, June 16 and 17 will be limited to business sessions. Group luncheons at the hotel between business sessions will be continued but all entertainment features, including the annual banquet have been abandoned for this year.

L. R. Root, Scovill Mfg. Co., is chairman of the convention committee. He has announced that books of tickets will be sold as usual. The price of $7.50 will include registration fee and lunch for each day. Reservations must be made in advance. Mail to Walter B. Murray, 100 East 42nd Street, New York.

S.O.C.M.A. to Absecon

The Synthetic Organic Chemical Manufacturers' Association will hold its annual meeting and outing at the Seaview Country Club, Absecon, N. J., Friday and Saturday, June 5 and 6. According to plans made by Charles Mace, secretary of the association, there will be a business meeting Friday and the golf tournament will be played Saturday.

M.C.A. Meeting in N. Y.

The annual meeting of the Manufacturing Chemists' Association will be held at the Waldorf-Astoria, New York, June 4.

Phila. Exchange Outing

The Philadelphia Drug Exchange will hold its annual spring outing at the Manufacturers' Country Club, Oreland, Pa., June 3. The annual golf tournament for the Exchange cup will be held.

Canadian Perfumers Meeting

The Canadian Toilet Goods' Manufacturers' Association will hold its annual meeting June 8 and 9 at the Seigniory Club, Montebello, Quebec. E. C. Barton is general chairman of the meeting which will be devoted to "Toilet Goods' Problems in Wartime."

Olive Oil Assn. Elects

Walter A. Benz, Strohmeyer & Arpe, has been elected president of the Olive Oil Association. Other officers elected were: Carlo Bertolaia, Locateeli & Co., and A. J. Bendin, Bortolo, Bendin, Inc., vice-presidents; M. Charles Segui, Briones & Co., secretary-treasurer.

Directors elected were: E. H. Jacobson, Albert N. Cory, Ercole Sozzi, Jose M. Calderon, A. William Gerosa, N. C. Lekas, Clifford T. Weihman and Bradley H. Mawer.

Sterling Heads Importers

M. M. Sterling, president of E. Fougera & Co., was elected president of the National Council of American Importers at its annual membership luncheon. Other officers elected were: R. F. Warner, C. T. Riotte, Charles Brian and William H. Schille, vice-presidents; and Frank J. Nolan of Milbank Seaman & Co., treasurer.

Companies

Dr. Arnow Joins S. & D.

Dr. L. E. Arnow has become associated with the medical-research division of Sharp & Dohme, Philadelphia, as director of biochemical research. Dr. Arnow was graduated from the University of Florida with B. S. and Ph. G. degrees in 1930. He then did graduate work in physiological chemistry and biophysics at the University of Minnesota, from which he received his Ph. D. in 1934; and his M. D. in 1940.

Although Dr. Arnow worked as a registered pharmacist in Florida, his experience has been chiefly in research and teaching, first in the Florida State Experiment Station, then as assistant in physiological chemistry and biophysics at the University of Minnesota Medical School, first as an instructor and then as assistant professor. He is the author of several textbooks and a number of research papers which have appeared in scientific journals.

Dana Perfume Changes

Henri Costerg, vice-president of Les Parfums de Dana Inc., who is in charge of the American business and export from this country, has announced that the company is moving to new quarters at 183 Madison Ave., New York, about the middle of May. It has also been announced that Maurice A. Meunier, for the past twelve years with Colgate-Palmolive-Peet and before that with Houbigant, has become associated with the company and will have full charge of research and manufacture.

Javier Serra, president of Les Parfums de Dana, Inc., who has been in this country for several weeks left April 16 to return to Buenos Aires where he is director of the South American interests of the company.

Dana will soon introduce Platino to the American public. Plantino, like Tabu, will be sold exclusively in this country through Dana Perfumes, Chicago.

Kiehl Succeeds Meunier with Colgate

John Kiehl has been appointed chief perfumer in the research department of Colgate-Palmolive-Peet Co., Jersey City, N. J. Mr. Kiehl has been with Colgate since 1934 and has worked with Maurice A. Meunier whom he succeeds as chief perfumer.

Fenton Joins Penick

Walter M. Fenton, for the past three years manager of the Baker & Adamson division of General Chemical Co., and associated with that company for thirteen years, has resigned to become a member of the executive staff of S. B. Penick & Co., New York, where he will devote himself to the chemical specialties field.

Sperber—Sterling V. P.

At a special meeting of the board of directors, R. L. Sperber has been elected vice-president in charge of sales and advertising of Sterling Products (Limited), Windsor, Ontario, according to an announcement by H. L. Schade, president. Mr. Sperber joined the company as advertising manager in 1936, and became sales manager three years later.

Swartz Heads Crown Can

Richard P. Swartz has been made president of Crown Can Co., according to an announcement by Charles E. McManus, chairman of the board of directors and president of Crown Cork & Seal Co., Inc., the parent company. Mr. Swartz had been plant manager of Crown Cork & Seal's bottling machinery division in Baltimore when he was promoted in 1938 to be production manager of Crown Can Co. The following year he was made vice-president in charge of production and in 1941, assistant to the company. On April 23 in addition to being made president of Crown Can, Mr. Swartz was elected a director of Crown Cork & Seal Co., Inc.

P. C. Magnus Sr. Portrait Unveiled

A portrait of the late Percy Cecil Magnus, Sr., founder of Magnus, Mabee & Reynard, was unveiled April 24, the forty-seventh anniversary of the company. Percy C. Magnus, Jr., president, made the presentation of the portrait which was painted by Edmund Magrath. Edward V. Killeen, of George Lueders & Co., spoke briefly and J. L. Hopkins, of J. L. Hopkins & Co., a charter member of the Drug and Chemical Club in which Mr. Magnus was active, also spoke.

Ungerer Names Moore Treasurer

H. B. Moore who was recently elected vice-president of Ungerer & Co. has also been elected treasurer of the company. Norman E. Gallagher, formerly in the company's Philadelphia office has been advanced to the New York office and Warren E. Kell is now handling the Philadelphia territory. His headquarters are in the Bourse Building, that city.

Ralph Morgan has been appointed for the St. Louis-Southern territory with headquarters at 1123 Washington Ave., St. Louis.

Merck & Co. Service Flag

Dedication of a service flag for the more than 200 employees of Merck & Co., Inc. who have entered the armed forces of the United States took place at the main plant of the company, Rahway, N. J., April 21. The ceremonies were conducted by a committee of employees who are veterans of the World War. The stars on the Merck service flag represent employees from cities and localities in all parts of the country. The flag does not include those employees who have entered the Canadian service from Merck & Co., Ltd., in Montreal and Toronto

The committee in charge of arrangements was composed of A. F. Hope, N. D. Bechtold, Frank Schuetz and A. D. Walsh.

Schering Stock Taken by U. S.

Leo T. Crowley, Alien Property Custodian, April 20 took over all the stock of Schering Corp., Bloomfield, N. J. Mr. Crowley said that the company had been eliminating alien influences for some time and his action was designed to complete the Americanization of the company.

The stock taken over was that registered in the name of Gunther & Co., New York, in Schering Corp. (N. J.); Schering Corp. (N. Y.), and Sherka Chemical Co. At the request of the corporation representatives of the Alien Property Custodian are now supervising operations at Schering Corp.

Bomer on Bristol-Myers Board

Walter L. Bomer, vice-president in charge of foreign sales for Bristol-Myers Co. has been elected a member of the board of directors. Mr. Bomer joined Bristol-Myers as an office boy in 1905 at the age of sixteen. He moved steadily into increasingly important work such as filing clerk, statement clerk, and payroll clerk and five years after joining the

WALTER L. BOMER

company he was placed in charge of credits and collections in the financial department.

While still in the financial department with William M. Bristol, Sr., he began to develop the foreign sales department of the company. He was sent to Mexico and the Caribbean, in order to study the Latin-American market, and by 1918 the export branch of the company's trade had grown to such proportions that he was appointed export manager, a job that demanded his entire time and traveling to nearly all parts of the world.

Bill George Joins Hooker

William F. George has joined the sales organization of Hooker Electrochemical Co., Niagara Falls, N. Y., and will be in charge of its New York office at 60 East 42 St., that city. Mr. George was with Hooker Electrochemical Co. some time ago at the plant in Niagara Falls and later in New York. He left in 1919 to organize W. F. George Chemicals, Inc., which is now known as George Chemical Co. and which he conducted until 1928 when he become associated with *Chemical Industries*. Mr. George returns to Hooker from *Chemical Industries*.

Dart Head Liggett Drug

Justin W. Dart, who joined the management group of United Drug late last year, has been elected president of the Liggett Drug Co., Inc., the principal retailing unit of United Drug, Inc. He succeeds William M. Berg who has headed the company for the past two years and who has been president of the Owl Drug Co. for several years. Mr. Berg will now devote his full time to the management of that concern, the west coast retailing unit of United Drug.

Mr. Dart has also been elected vice-president and director of United Drug, and William F. Davis Jr. vice-president of Liggett has been elected a director. Mr. Dart, who is thirty-four years old, resigned as general manager of the Walgreen Co. last October. He had been with Walgreen since his graduation from Northwestern University in 1929.

Packaging Mchy. Aiding Customers

The Package Machinery Co., Springfield, Mass., is assisting package goods manufacturers who cannot obtain new wrapping machines because of the war, by placing such companies in touch with other manufacturers who have idle machines which they are willing to sell. Slight alterations will frequently adapt a machine to the new user's needs.

Package Machinery Co. makes it clear that in offering this service, it will neither buy nor sell the machines. Its aim is only to assist companies which cannot obtain sufficiently high priorities to insure delivery on new machines.

Homer Fritsch—P. D. Gen. Mgr.

Homer Fritsch has been named general manager of Parke-Davis & Co., Detroit, a position which has remained vacant for the past year since Dr. A. W. Lescohier was advanced to president. Mr. Fritsch, a chemical engineer who has been with Parke, Davis for twenty-seven years, has been successively general supervisor, general superintendent, and assistant to the president.

Bezanson—Monsanto V. P.

Osborne Bezanson, general manager of the Texas division of Monsanto Chemical Co., St. Louis, has been elected a vice-president of the company. The Texas division, of which Mr. Bezanson was made manager early this year, has under its jurisdiction a plant for the manufacture of an important material for synthetic rubber and a plant for the manufacture of munitions.

C. E. Clark Succeeds His Father

Clarence E. Clark, formerly vice-president of Whittaker, Clark & Daniels, Inc., was elected president at the annual election of officers March 25. He succeeds his father, Samuel H. Clark, who died last fall. Other officers elected were: Harold G. Robinson, vice-president; W. Wallace Roff, vice-president; John A. Franklin, secretary and treasurer; John A. Seidler, assistant secretary, and L. E. Clark, assistant treasurer.

At the golden anniversary dinner of the organization in January 1941, Samuel H. Clark celebrated forty-three years as president.

Six Scientists Join Evans

Ralph L. Evans Associates, the research division of Evans Chemetics, Inc., has announced the following additions to its staff of chemists: Walter W. Edman, B. Ch. E., Cooper Union, for the past two years with the M. W. Kellogg Co., and for six years prior thereto, with Colgate-Palmolive-Peet Co.; Evelyn Klibaner, A.B., Hunter College, formerly in the laboratory of the General Dyestuff Corp.; Fred Linsker, University of Vienna, pharmaceutical and x-ray specialist; Mildred Mellor, A.B., Hunter College, formerly in the laboratory of Cheney Bros. Silk Co.; Carl Seybold, B.S., Marysville, formerly with the Trojan Powder Co., division of the DuPont Co.; and John Ross, for a number of years with Max Factor Co. and more recently with Pond's Extract Co.

Continental Appoints Franz

E. J. O'Connor, manager of sales, general line, for the Continental Can Co., has announced the appointment of R. W. Franz as local sales manager, general line, at Cincinnati.

Mr. Franz joined the Continental organization in 1929 as an employee of the Cincinnati plant. Two years later he became a member of the sales organization and in 1941 was appointed assistant local sales manager. He succeeds R. L. Perin who left early in April to assume his new duties as Pacific Coast sales manager of the company.

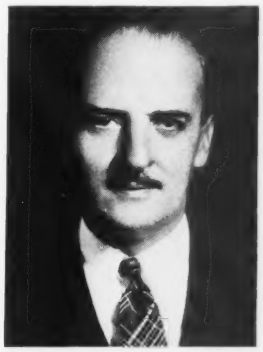
O'Connor—Colgate V. P.

Manning O'Connor, manager in charge of sales and merchandising for the toilet goods division of Colgate-Palmolive-Peet Co. since 1935, has been elected vice-president in charge of that division. Horace W. Remington, a director of the company since 1935, was elected vice-president in charge of foreign operations and was re-elected as a director.

American Can Advancements

H. M. McCormack, formerly sales division manager, in charge of the paper milk container sales, Atlantic division, American Can Co., has been promoted to the general sales department where he will have supervision for the whole country over the paper milk container and the transition from metal containers to fibre containers for all general line products. F. E. Uihlein, formerly assistant to Mr. McCormack, has been appointed to succeed him as sales division manager of the Atlantic division.

Mr. McCormack joined American Can Co. in 1916 as time-keeper at the



H. M. McCORMACK

Brooklyn factory. He then became a clerk in the local sales division and later was transferred to Chicago. After serving in World War I he went back to Chicago and remained until he was transferred to the Atlantic division in 1919.

Mr. Uihlein has been with the company since 1936. He has had experience in industrial organizations ranging from steel mills to auto plants. He was also an investment banker and counsel for nine years on the west coast and in New York.

Other promotions announced by the company are as follows: R. H. Lueck, formerly manager of research department at Maywood, Ill., has been appointed director of research with headquarters at Maywood. Dr. R. W. Pilcher, formerly assistant to the manager of the research department becomes assistant director of research at Maywood.

Dr. B. S. Clark, formerly manager of the research department at San Francisco, has been appointed associate director of research in charge of the

F. E. UIHLEIN

Pacific district laboratory with headquarters at San Francisco. D. F. Sampson, formerly manager of the research department for the northwestern district and British Columbia, has been made assistant director of research in charge of northwestern district laboratory with headquarters at Seattle.

Merck Institute Booklet

The Merck Institute for Therapeutic Research is the subject of a very interesting and informative brochure which Merck & Co. has published. The booklet is illustrated with many excellent photographs and tells of the development and organization of the Institute in detail. During the first few years of its existence investigations were undertaken along the lines of conventional pharmacological problems. Although these subjects still retain a definite place in the research program of the Institute, two more recently added fields are now surpassing them in importance; namely, nutritional research, especially in the field of water-soluble vitamins, and investigations in the field of chemotherapy.

Dr. Hans Molitor is director of the Institute whose personnel at the beginning of 1942 consisted of thirty-five men and seventeen women. Of these, thirty-seven were on the technical staff, three on the office staff and twelve on the maintenance staff.

Included in the brochure is a list of the publications of The Merck Institute for Therapeutic Research. Copies are available upon request.

Shapiro Joins Charles of Ritz

Dr. Caspar V. Shapiro has been made production manager of Charles of the Ritz succeeding Fred Bettiol who died early in March. After holding a fellowship at Cornell University, Dr. Shapiro was associated with Viviny Perfumers, Inc., West Haven, Conn.

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New Monsanto Plant

The new plant of Monsanto Chemical Co. at Trenton, Mich , which will eventually manufacture a group of industrial chemicals derived from phosphorous went into operation April 28. Owing to war conditions the opening took place without ceremony.

J. G. Rosengarten Jr.—Merck Director

J. G. Rosengarten, Jr. who retired as vice-president and a director of Merck & Co., Inc., in 1934, has returned to the board because of the resignation of his nephew, Captain Adolph G. Rosengarten, Jr. who is now on active duty with the 111th Infantry of the 28th Division, United States Army.

J. G. Rosengarten, Jr. is the brother of Frederic Rosengarten, chairman of the board, and the grandson of George D. Rosengarten, who founded the chemical and drug business which dates back to 1818.

Lilly Prize to Dr. Evans

Dr. Earl A. Evans, Jr., associate professor of biochemistry at the University of Chicago, was given the 1942 Eli Lilly Prize of $1,000 in biological chemistry at the opening session of the American Chemical Society's 103rd meeting in Memphis, Tenn on April 20.

The award was given to Dr. Evans in recognition of his discovery that carbon dioxide, formerly thought of as a waste product in the animal body in contrast to plant tissue, is used by many types of animal cells. Dr. Evans has shown that carbon dioxide plays a part in certain reactions occurring in the liver during the oxidation of sugar.

Stevens with Primrose House

James C. Kennedy, Jr., president of Primrose House, Inc., New York, has announced that George A. Stevens has become associated with Primrose House as assistant to the president.

People

Lee Camp to Retire

G. Lee Camp, vice-president, member of the board of directors and co-general manager of the Organic Chemicals Division, Monsanto Chemical Co., will retire June 30 after a forty-one year career in the chemical industry.

Mr. Camp was born in Midland, Mich., June 11, 1882. After a common school education he went to work for the Dow Chemical Co. in 1901, rising from a laborer until in 1929 when he resigned he had attained the position of general sales manager in charge of sales and distribution of all Dow products.

In 1931 he joined Monsanto as assistant to Edgar M. Queeny, president. At that time he made known his desire to retire on his sixtieth birthday. In late 1930 he was elected a member of the board of directors and on May 1, 1939, when Monsanto was set up along divisional lines he became, in addition to his other responsibilities as a corporation officer, the co-general manager of the organic chemicals division, the largest division of Monsanto, which operates plants in St. Louis, Monsanto, Ill., Nitro, W. Va., and Norfolk, and research laboratories in St. Louis, Nitro and Akron.

Mr. Camp plans to occupy his future with growing and marketing citrus fruits in Florida.

Dr. Major on Princeton Council

Dr. Randolph T. Major, director of research of Merck & Co., Inc., Rahway, N. J., has been appointed to the Graduate Council of Princeton University. As chairman of the advisory council to the department of chemistry he will represent his group in the Graduate Council deliberations.

The Advisory Council at Princeton endeavors to make known more widely the work of the various departments of the University. Its work brings to each department the counsel of persons outside the University who have a special interest and knowledge in their respective fields.

Dr. Major was a Fellow at Princeton during 1925-26. He was instructor and research associate until 1930 when he became director of the Merck Research Laboratories.

Louis Mocq and Florida Perfumes

Louis Mocq, the energetic perfumer, who left New York and the cosmetic business two years ago to retire in Florida, is making headlines in his adopted State. No one who knew Louis in New York,—and there are many of us,—expected him to spend his time reclining on the front porch of his villa at Fort Lauderdale.

Louis is all out for Florida as the center of world perfume production. He finds the climate, the soil, the flowers and their odors ideal for such a producing center. In a Dania laboratory, Florida reporters found Louis surrounded with vials, retorts, and an enthusiastic story that a new million dollar industry was ready and waiting for development.

Louis took the hard knocks and the favors in this industry for over twenty-five years. He has the energy, enthusiasm, and experience to find a basis for perfume development in our most colorful and romantic state.

Schneider Forms Tesco Co.

T. E. Schneider, for many years sales manager of the chemical division of International Minerals & Chemical Corp., has resigned following his purchase of the detergent products division of the company's business.

T. E. SCHNEIDER

Mr. Schneider's new company, known as the Tesco Chemical Co., is now manufacturing a complete line of detergents in a new Atlanta plant and also acting as distributor in the southeast for several well-known companies.

Alexander-Williams

Lieut. Paul W. Alexander, advertising representative for THE DRUG AND COSMETIC INDUSTRY, was married May 4 to Janet Williams, daughter of Mr. and Mrs. Eliot L. Williams at the Hitchcock Memorial Church, Scarsdale, N. Y.

Lieut. Alexander was inducted into the U. S. Army in March 1941 and was graduated from the Officers Training School at Fort Benning, Ga., May 1, 1942, and assigned to duty at Sault Ste. Marie, Mich.

Spitaleri Speaks on Perfumes

Frank Spitaleri, perfumer for Felton Chemical Co., Brooklyn, N. Y., spoke on "Organic Chemistry in the Perfume Field" before a large group of the Cooper Union Alumni Association on April 6.

Martin of Winthrop Honored

A luncheon was given by the officers and employees of Winthrop Chemical Co. early in April in honor of John H. Martin. The occasion was the twenty-fifth anniversary of his association with Winthrop and its predecessor companies. Mr. Martin joined H. A. Metz Laboratories, April 1, 1917. The company became associated with Winthrop in 1926 and was absorbed by the latter company in 1935. Mr. Martin has been secretary of Winthrop Chemical Co. since 1929.

Dr. Dunning Receives Degree

An honorary Doctor of Laws degree was presented to Dr. H. A. B. Dunning at the mid-year commencement exercises of Johns Hopkins University. Dr. Dunning, president of Hynson, Westcott & Dunning, Inc., also holds honorary degrees from Washington College and the University of Maryland.

Harvey Harker Returns

Harvey M. Harker and Mrs. Harker returned to St. Louis April 14 from Melbourne, Australia. Mr. Harker, assistant general sales manager of the organic chemicals division had been in Australia since November 1940 as technical adviser in the establishment of manufacturing operations by Monsanto (Australia) Proprietary, Ltd., Monsanto's new Australian affiliate.

W. E. Weiss Jr. Engaged

Announcement has been made of the engagement of Martha Dwight Douglas, daughter of Commander D. Dwight Douglas, U. S. N., of Grosse Pointe, Mich., and Mrs. S. Pinkney Tuck, wife of the United States Consul at Vichy, France, to William Erhardt Weiss Jr. of New York.

Mr. Weiss is the son of Dr. William E. Weiss, formerly general manager and chairman of the executive committee of the board of directors of Sterling Products Inc.

Lieut. Sheffield Marries

Lieut. Peter K. Sheffield, youngest son of W. Kyle Sheffield, vice-president of New England Collapsible Tube Co., New London, Conn., was married April 4 at Waco, Texas, to Mary E. van de Linda, daughter of Mr. and Mrs. Lloyd van de Linda of Gordonsville, Va.

Lieut. Sheffield is a graduate of the University of Virginia, class of '41. He was one of the first twelve in his class at Kelly Field and was immediately made an instructor in the Air Corps. He is now stationed at Perrin Field, Sherman, Texas.

R. W. Johnson in Service

Robert W. Johnson, chairman of the board of Johnson & Johnson, New Brunswick, N. J., has been assigned to the industrial service branch of the Army Ordnance.

H. R. Noonan in Service

H. Richard Noonan, director and vice-president of the Drug Products Co., Inc., Long Island City, N. Y., has been commissioned First Lieutenant in the Sanitary Corps of the U. S. Army. He assumed his new duties April 23 at St. Louis.

DeWitt Thompson in Service

DeWitt W. Thompson, assistant general manager in charge of sales, Mathieson Alkali Works, reported to the Naval Air Station at Quonsett Point, R. I., April 15, to take up his duties as Lieutenant, Senior Grade. Before leaving Mr. Thompson was guest of honor at a farewell luncheon at the Chemists Club, sponsored by a number of class associates and those of the commercial round table of the Chemists Club.

He was president of the Salesmen's Association of the American Chemical Industry in 1940, and has been with Mathieson since 1930.

Robinette in Service

Hillary Robinette of the research department of Commercial Solvents has reported for active duty with the United States Army, Chemical Warfare Service. For the past two years Mr. Robinette has been working on the textile applications of the company's new products at its laboratories in Terre Haute, Ind.

Cecil Carr has joined the research staff of Commercial Solvents. Mr. Carr is a recent graduate of Iowa State College.

Wally Merrill in Service

Walter Merrill, head of Joseph Turner & Co., Ridgefield, N. J., has been commissioned a major in the Army Air Corps and reported for duty April 28 at Stewart Field, West Point, N. Y.

During his absence William B. Mullen will serve as general manager of Joseph Turner & Co. and John F. Henry will be in charge of eastern sales.

A luncheon was given at the Chemists Club, New York, April 24, in honor of Major Merrill, a graduate of West Point who has done a great deal of flying during the past few years. He is a former president of the Salesmen's Association of the American Chemical Industry.

Jack Dorland in Service

Jack Dorland, of the New York office of Dow Chemical Co. and son of Ralph E. Dorland, went into the United States Army, Chemical Warfare Service, April 25.

A Son to the Hobeins

Mr. and Mrs. Robert Hobein have announced the birth of a son, Robert G. Hobein, on April 11. Mr. Hobein is connected with Ungerer & Co.

Obituaries

Paul Felix Berk

Paul Felix Berk of London and New York, chairman of the board of F. W. Berk & Co., Ltd., died in London, April 29 of a heart attack. He was sixty-one years old.

Mr. Berk was born in Beckenham, Kent and established the New York and San Francisco offices and the Wood Ridge (N. J.) plant of F. W. Berk & Co., Ltd. He is survived by his mother, his wife, two sons, Curtis F. and Desmond F. Berk, and a daughter, Mrs. Martin McAllister.

J. Harry Cox

J. Harry Cox, president and treasurer of the 118-year old Tilden Co., New Lebanon, N. Y., died at his home April 29 at the age of 80.

The company of which he was the head was founded by Elam Tilden, father of Samuel J. Tilden, former Governor of New York and Democratic nominee for President in 1876. It is said to be the oldest manufacturer of pharmaceutical products in the country and claims the distinction of having been the first American concern to make fluid medicinal extracts and sugar-coated pills.

Mr. Cox was born in New York in 1861 and was graduated from City College in 1878. His first position was with the Edward E. Hull Co., drug brokers, New York. He joined the Tilden Co. sixty-one years ago at its New Lebanon factory and has been president of

If...you are one of these manufacturers you should read this advertisement

Are you one of the pharmaceutical manufacturers who require Magnesium Carbonate U.S.P. of exacting specifications?

Then, this NEWS is for you.

A large user of Baker's Magnesium Carbonate U.S.P. has turned his complete manufacturing facilities over to war-time products. Thus, considerable tonnage of Magnesium Carbonate of exceptional quality is freed for other buyers, at no price premium.

This Magnesium Carbonate U.S.P.—like *all* sold under the name of Baker—is extremely low in calcium content and iron content. It assays uniformly as to MgO and will give you uniform bulk. The crystal structure is uniform—a fine white powder, 300 mesh and finer.

A few of the manufacturers who will be especially interested

Manufacturers of citrate magnesia, internal powders (including anti-acids or ingredients of tablets), flavoring extracts, filtration of elixirs, will be interested in the chemical analysis and physical uniformity of Baker's Magnesium Carbonate.

Makers of cosmetics (deodorant creams and powders, face powders, foot powders, dusting powders, toothpaste and powders) will appreciate its uniform bulk which overcomes difficulties in both machine and hand-filling operations.

All manufacturers who have exacting specifications will be particularly interested because this U.S.P. chemical is manufactured under most rigid controls, assuring uniformity as to chemical analysis, volumetric density, crystal structure, particle size—and is exceptionally low in impurities.

We urge you to write for typical analysis and free testing samples. This is a splendid opportunity for large pharmaceutical manufacturers to obtain a second source of supply of Magnesium Carbonate and for smaller manufacturers to get an unusual product that fully meets U.S.P. standards.

Baker's fine chemicals

J. T. BAKER CHEMICAL CO., Phillipsburg, N. J.

GATHERING

of BOTANICALS is an ART

Experienced natives gather and peel cherry bark for S. B. Penick & Company. The care with which successive crops of uniform quality have been produced by these experienced gatherers has been the basis of official drug standards.

S. B. PENICK & CO.

. . . occupies the unique position of being the only botanical miller and manufacturer to derive the majority of its domestic botanicals directly from the gatherers in the producing districts.

AVAILABLE FROM ONE RELIABLE SOURCE . . .

are Gums, Insecticide Bases, Crude Botanicals, Fish Liver Oils, Extracts, Alkaloids, Cosmetic Raw Materials.

• • • PASSED ON FROM GENERATION TO GENERATION OF PENICK GATHERERS

Through generations, Penick collectors have passed on to their families the art of medicinal plant collection and identification—knowledge of the right season to gather for a maximum of active principles, how to remove adhering soil, how to dry plants correctly. More than two hundred Penick botanical drugs are gathered in the beautiful Blue Ridge Mountains of North Carolina.

The gatherers bring the botanicals to the Penick warehouse at Asheville, North Carolina. Today over fifteen hundred natives gather roots, barks and herbs during the harvesting season. In the collection house, the materials are carefully hand picked, rewashed, graded and thoroughly dried. Curing is completed in open-air drying sheds. An experienced manager supervises each process through to the time the different grades and qualities are separated, and samples sent to Penick control laboratories for examination.

S. B. PENICK & COMPANY

50 CHURCH STREET, NEW YORK
735 W. DIVISION STREET, CHICAGO

THE WORLD'S LARGEST BOTANICAL DRUG HOUSE

S-h-h-h!

DON'T SPREAD WARTIME RUMORS

BUT . . . here's one fact that can't be kept under cover: There has been, and there will be no let-down in Heyden standards of purity and uniformity.

FINE HEYDEN CHEMICALS

Specify

HEYDEN

Medicinal Creosote and Guaiacol Products

These products meet every requirement of the Pharmaceutical manufacturer. Their color, odor and taste evidence the high purity and uniformity characteristic of Heyden Chemicals.

CREOSOTE U. S. P.

CREOSOTE CARBONATE U. S. P.

POTASSIUM CREOSOTE SULFONATE

BEECHWOOD CREOSOTE U. S. P.

•

CALCIUM GUAIACOL SULFONATE
Powder

GUAIACOL CARBONATE N. F.
Crystals

GUAIACOL CRYSTALS U. S. P.

GUAIACOL LIQUID U. S. P.

MAGNESIUM GUAIACOL SULFONATE
Powder

POTASSIUM GUAIACOL SULFONATE N. F.
Crystals

Write for Current Products List

Please Cooperate

TO HELP US SPEED UP SERVICE

Hasten the return of used containers: Tank Cars, Drums and Carboys

HEYDEN

Chemical Corporation

NEW YORK—50 UNION SQUARE

CHICAGO BRANCH—180 N. WACKER DRIVE

Forty-five Years a Leader

Since 1895 the name of Chuit, Naef has been synonymous with the production of the highest quality group of synthetic and aromatic chemicals obtainable. Today, as then, this reputation continues unmatched.

Throughout these years the Chuit, Naef organization has expanded its products to the point where they now rank as the most complete line of perfume raw materials available to the toilet goods, perfume extract and soap fields.

The laboratories at Geneva, Switzerland, are constantly ***showing the way*** in the development of new aromatic materials, basic specialties and finished compositions that aid ***you*** in solving your perfume problems.

As sole United States agents, let us convince you of the remarkable adaptability of our products to your line—***and our ability to deliver!***

FIRMENICH & COMPANY

135 FIFTH AVENUE, NEW YORK, N. Y.

CHICAGO OFFICE: 612 NORTH MICHIGAN AVENUE

the company for over twenty years, remaining active until the time of his death.

In April 1887 he married Miss Rachel Zittorah Wallace of New Lebanon who died in 1932. He is survived by a son, William Gordon Cox of Old Chatham, N. Y.. who is secretary of the company; a sister, Mrs. Edward O. Wieters of East Orange, N. J.; a grandson, Gordon Wallace Cox, and two stepgrandchildren. Another son was the late Harry Wallace Cox.

Harry W. Fisher

Harry W. Fisher, office manager of the Campana Corp., Batavia, Ill. has died at the age of forty-eight.

Mr. Fisher was born in Anderson, Ind., and went to Batavia as press foreman of the Household Journal magazine. Later he was taken into the Campana Corp. and soon rose to the position of office manager.

Malcolm Galbraith

Malcolm Galbraith of the Upjohn Co., Kalamazoo, died April 10, after an illness of several months. He had been connected with the drug industry for many years and was one of the oldest members of the Chicago Drug and Chemical Association.

Sidney C. James

Sidney C. James, chairman of the executive committee of the Federal Wholesale Druggists' Association and president of the association from 1939 to 1941, died April 13 at his home in Buffalo. He was fifty-eight years old.

At the time of his death he was general manager of Ellicott Drug Co. with which he had been associated since 1920 when he became a director. He was president from 1924 to 1929 and became general manager in December 1934.

Mr. James was born in England and was brought to this country at an early age. After graduation from the Greenfield, Mass., High School, he went to Buffalo where he attended the pharmacal school of the University of Buffalo, receiving a bachelor of pharmacy degree in 1903. From 1910 to 1935 he conducted a retail drug store in Buffalo under the name of "James the Druggist."

He was a former president of the Greater Buffalo Drug Club, and was an active member of the Western New York Retail Druggists' Association, the New York State Pharmaceutical Association, the National Association of Retail Druggists, and the American Pharmaceutical Association.

Ernest W. Kremers

Ernest W. Kremers, president of Kremers Urban Co., Milwaukee, died in a hospital there April 5. He was seventy-one years old. Born in Milwaukee, he founded the Kremers Urban Co. in 1910 and remained president of the company until his death. Mr. Kremers is survived by his wife, a son, two sisters and two brothers.

Richard G. Rast

Richard G. Rast, secretary of Lautier Fils, Inc., died at his home in Highlands, N. J., April 16. He had been associated with Lautier Fils for eighteen years.

Charles S. Welch

Charles S. Welch, executive secretary of the Toilet Goods' Association, died April 26 at St. Elizabeth's Hospital, New York, after an illness of a few days. He was fifty-nine years old.

Mr. Welch was born in Marysville, Ont., and after studying pharmacy in Rochester, N. Y., where he spent his boyhood, he went to New York where he entered the employ of the Riker-Hegeman Drug Co. Later he was manager of the toilet goods department of Park & Tilford; vice-president and general manager of Helena Rubinstein; vice-president and general manager of Houbigant Inc., and executive secretary under N. R. A. of the Toilet Goods Code Authority. He was a member of the National Democratic Club, and the Winged Foot Golf Club.

He is survived by a widow, the former Isabelle Carlin; a son, Robert F. and a daughter, Eileen C. Welch.

Financial

Colgate Earnings Double

Colgate-Palmolive-Peet Co. and subsidiaries in the Western Hemisphere report for 1941 a net profit of $6,604,891, equal to $3.09 a share on common stock. This compares with $3,824,801, or $1.62 a share, in 1940.

Sales for the year were $105,405,550, the highest in the history of the company, surpassing the previous record of $101,935,438 reached in 1939 when all the company's subsidiaries and branches, except those in Germany, Italy and Poland were included in the consolidation.

Commercial Solvents Earnings

Commercial Solvents Corp. reports for the March quarter a consolidated net profit of $547,181, equal to 21 cents a share and comparing with $556,992, or 21 cents a share earned last year.

Container Corp. Net Up

Container Corp. of America reports for the March quarter a net profit of $548,646, equal to 70 cents a share and comparing with an adjusted net income of $368,365, or 47 cents a share in the March quarter last year. Provision for Federal taxes in the 1942 period is said to have been estimated on the basis of 80 per cent. of profit before taxes.

Coty Profits Lower

Coty, Inc., and domestic subsidiaries report for the March quarter a net profit of $238,605. This is equal to 16 cents a share and compares with $281,388, or 19 cents a share, earned in the first quarter last year. A provision of $339,528 was made for excess profits tax and Federal income tax at a rate higher than the one now prevailing.

Dow Earns More

Dow Chemical Co. and subsidiaries report for the nine months ended with February a consolidated net profit of $6,322,592 after all charges including $5,632,873 provision for income and excess profits taxes. This is equal to $4.88 a share and compares with a net profit of $5,819,127, or $4.92 a share in the nine months ended February 28, 1941.

Lambert Net Lower

Lambert Co. reports for the March quarter a net profit of $450,411, equal to 60 cents a share against a revised estimated consolidated net profit of $504,012, or 67 cents a share in the March quarter last year. Provision for Federal income taxes this year was made at existing rates plus $75,000 for prospective additional Federal income taxes.

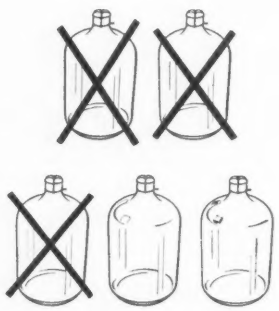
Lehn & Fink Earnings

Lehn & Fink Products Corp. reports for the nine months to March 31 a net profit of $555,500, equal to $1.38 each on 400,000 shares and comparing with $501,956, or $1.25 a share for the nine months to March 31, 1941.

(*Continued on page 545*)

3 out of 5 raw materials unavailable... yet delivery was made on schedule!

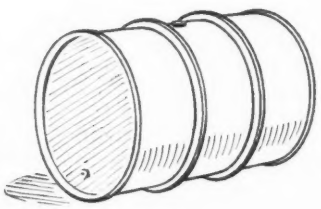
One of a series of cases from the files of Monsanto's Technical Service Department which show how skill, experience and ingenuity can solve many critical wartime problems. For obvious reasons identifying names and details have been omitted.



1. The order read—"Must have delivery in three weeks!" or work will stop on a vital construction job!

But of five chemical raw materials required to manufacture the particular product called for —*three had been drafted for defense!*

There seemed nothing else to do but write the customer, "Sorry! We can't supply etc., etc." Certainly such a letter is no novelty these priority-troubled days.



2. Monsanto sales correspondents, however, are often deliberately *slow* on the trigger.

Before the sales department mailed its regrets, they put Monsanto's able Technical Service Department to work on the problem.

In the specified three weeks, adequate replacements for all three unavailable materials had been found and thoroughly tested—*and the order was in the customer's receiving room!*

3. Obviously not all the problems created by the present emergency can be so quickly and happily solved. But two factors often give Monsanto technical men an invaluable head start toward a solution... a thorough understanding of *your* problems and basic processes...and, equally important, a broad knowledge of their *own* business which springs from the very breadth and variety of Monsanto's chemical manufacturing experience.

UNIFORMITY—STILL AN ESSENTIAL

Delivery schedules may be wrecked. Many essential materials may be denied you. But in *every* shipment of pharmaceuticals that does reach your plant you *must* have *uniform* quality.

That's why *every* batch of *every* Monsanto pharmaceutical, despite the pressure for more production, is still carefully controlled at *every* step in its manufacture... and *every* batch is *double-checked* in the control laboratory. MONSANTO CHEMICAL COMPANY, St. Louis, U. S. A.

MONSANTO CHEMICALS

SERVING INDUSTRY...WHICH SERVES MANKIND

"E" for Excellence... the pennant denoting the highest service accomplishments in the United States Navy... flies with the Naval Ordnance flag over Monsanto. In the words of the Secretary of the Navy, this award has been made to Monsanto "in recognition of your outstanding efforts in the production of ordnance materiel vital to our national defense."

F.T.C. ACTIVITIES

Orders

Houbigant and Cheramy

Houbigant, Inc., Cheramy, Inc., and Houbigant Sales Corp., New York, have been ordered to cease representing, through use of "Paris" or "Paris, France" or other terms indicating French or other foreign origin, that perfumes or other toilet preparations made in the United States are compounded in France or in any other foreign country, provided, however, that the country of origin of the various ingredients may be stated when immediately accompanied by a statement that the finished products are compounded in the United States.

Also prohibited by the order is use of the terms "Houbigant," "Cheramy" or any other French or other foreign words or terms as brand or trade names for perfumes or other toilet preparations made in the United States, unless, in immediate connection therewith, it is clearly and conspicuously stated that such products are compounded in the United States.

Stanley Laboratories

Stanley Laboratories, Inc., Portland, Ore., and its president, Edward A. Bachman, are ordered to discontinue any advertisement which, in describing "M. D. Medicated Douche Powder," uses the words "dependable safeguard," "reliable safeguard," "effective reliable antiseptic powder," or any other words of similar meaning, in such a manner as to imply that the preparation is a contraceptive or prophylactic. Other representations ordered discontinued are that the preparation is a recent development of scientific research and is endorsed by physicians and surgeons; that it will have any effect upon bacteria in excess of acting as a mild antiseptic; or that it has any substantial therapeutic value in the treatment of cuts, sores or burns.

Other practices employed by the respondents to advertise their product and which are prohibited under the order are the use of the letters "M. D." in the name of the product; use of the picturization of a cross or any other simulation of the American Red Cross emblem, alone or with the picture of a doctor or nurse; and use of the word "Laboratories" in their corporate or trade name or in any manner representing that the respondents own or operate a laboratory equipped for compounding medicinal preparations and for research in connection therewith.

Freeman's Pyletts

Merritt Freeman Butler, trading as Freeman's Products, Howard City, Mich., formerly of Grand Rapids, Mich., has been ordered to cease advertisements which represent that "Freeman's Pyletts" is a cure, remedy, or effective treatment for piles or hemorrhoids; will ease pain quickly or effectively; or has any therapeutic value in the promotion of good health in excess of its laxative properties.

The respondent must also cease advertisements which fail to reveal that "Freeman's Pyletts" should not be used by persons suffering from nausea, vomiting, abdominal pains or other symptoms of appendicitis, and that continued use may result in phosphorous poisoning and consequent deterioration of the bones. The order provides, however, that if the directions in the labeling contain adequate warning of the potential dangers, the advertisements need contain only the statement: "Caution, use only as directed."

Dr. A. M. Loughney

Al Modey Loughney and Roger G. Loughney, trading as Dr. A. M. Loughney, Oakland, Calif., have been ordered to cease misrepresentation of a health regimen consisting of a brochure entitled "Dr. A. M. Loughney's Dependable Guide to Self-Help" and medicinal preparations designated "Anti-Spasthma-Oyl" and "Bowelkleen." The order prohibits any advertisement which represents:

(1) That the respondents' program of treatment, or their preparations, is effective treatment for asthma, hay fever, neuritis, rheumatism, bronchitis, stomach and bowel trouble, high blood pressure, or diabetes, or has any value in the symptoms of asthma or hay fever.

(2) That "Anti-Spasthma-Oyl", alone or with "Bowelkleen," is effective treatment for pharyngitis, laryngitis, chest or head colds, or pneumonia, or is effective intralung medicant, possessing sedative, healing or disinfectant properties.

(3) That "Bowelkleen," alone or with "Anti-Spasthma-Oyl," is a remedy for constipation or intestinal putrescence other than temporary evacuation of the bowels; that it will have any value in catarrh, acne, mucus colitis or kindred ailments, or that it is a safe treatment for nausea or upset stomach.

(4) That the existence of sour breath, coated tongue, indigestion, nausea, lack of energy, headaches, or loss of appetite indicates that constipation or intestinal putrescence is the basic cause.

The respondents are ordered to cease any advertisement of "Anti-Spasthma-Oyl" which fails to reveal that its frequent use may cause oil pneumonia; or any advertisement of "Bowelkleen" which does not disclose that it should not be used by persons suffering from abdominal pains or other symptoms of appendicitis.

Stipulations

Shulton Soap

Shulton, Inc., New York, agrees to cease representing that for 31 years or any other period of time it has been a manufacturer of soaps or toiletries, that it owns or controls the factory in which its products are compounded, or that it supervises their production. According to the stipulation, the respondent operates a plant at Hoboken, N. J., where it packages soap manufactured for it by other concerns. Under the original stipulation, accepted by the Commission in May, 1936, the respondent agreed to cease representing that its soap products were of British origin and, through use of the word "soapmakers" on billheads and other printed matter, that it was a soap manufacturer.

Beauty House

Albert H. Bach and Pincus Bach, trading as The Beauty House, New York, agree to cease representing as the customary prices of their products, prices and values which are fictitious and in excess of the customary prices; to cease quoting a figure purporting to be the regular or actual value of an article but which is in excess of the price for which the same or similar merchandise is sold or may be usually available in the retail market; and to discontinue representing that an advertised offer

A Salute To The Nation's Health!

In America the index of life expectancy is higher than it has ever been and continues to mount. As a nation we grow healthier. Good medicinals play their part in this progress and, in times of crisis, further our national security.

The function of the manufacturer of pharmaceuticals is therefore of primary importance and Dow continues to serve the trade to the best of its ability under present conditions. In this cooperation, as well as in meeting requirements of our fighting forces for pharmaceutical chemicals, Dow employs exceptional resources of experience, research and production facilities. It offers a Salute to the Nation's Health.

DOW

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

New York City, St. Louis, Chicago, San Francisco, Los Angeles, Seattle, Houston

DOW PHARMACEUTICAL CHEMICALS

is unusual or special so long as no price reduction or other trade concession is made therewith. The respondents further agree to cease referring to their blend of face powder as "Hollywood" or otherwise using geographic or cosmetic names signifying an origin, process or formula which the production so denoted does not in fact possess.

Bessemer's Odoform

James J. Bessemer, trading as Bessemer Health Products and as Bessemer Chemical Co., Miami, Fla., agrees to cease representing that "Odoform" is valuable in treatment of gout, rheumatism, dropsy, paralysis, skin and blood disorders, diabetes, indigestion, or kidney and bladder troubles, and that "Odoform" baths surpass world-renowned mineral baths. The respondent also agrees to discontinue representing that "Odoform," when used as directed, is antiseptic or prophylactic or has sterilizing properties.

Themes-Perfumers

Theodore W. Messick, trading as Themes-Perfumers, Camden, N. J., agrees to cease use of the word "French" to designate a perfume made in the United States, and from the use of any word or term of like import which may tend to cause the belief that such merchandise was manufactured in France or other foreign country. According to the stipulation, the respondent sold a domestic perfume under the brand name "French Bouquet."

Pickgan Labs. Allay

Pickgan Labrofacts, Inc., New York, in a revised stipulation concerning advertisements of "Allay," agrees to cease representing, through use of the word "pain" unqualified to indicate the types of pain for which the preparation normally will afford some measure of relief, that Allay has any appreciable effect upon persistent and frequently recurring pain; that it is safe for use and affords a new method for relieving pain; that it commences to act in three seconds after the tablets are taken; and that it has any efficacy in preventing development of colds or is an effective cold remedy.

A further stipulation is that the respondent will not publish advertisements which fail clearly to reveal that Allay should not be used in excess of the dosage recommended since such use, if too frequent or long continued, may be dangerous. The stipulation provides, however, that the advertisement need contain only the statement: "Caution, use only as directed," if and when the directions in the labeling contain an appropriate warning.

The Commission accepted the respondent's stipulation as a substitute for Stipulation 01906 covering similar practices, accepted by the Commission in 1940.

Mosso's Oil of Salt

Edgar B. Penny, Minnie F. Penny, F. S. Penny and Fred D. Penny, operating as C. A. Mosso Laboratories, Chicago, agree to discontinue representing that "Oil of Salt" possesses any hemostatic properties; that it is an effective relief in the treatment of ivy poisoning; or that it is of value in the treatment of burns, except those of a minor nature, or in the treatment of athlete's foot or other foot ailments, unless the particular cases of athlete's foot or other foot ailments for which it may be beneficial are specified in direct connection with such representation. The respondents further stipulate they will cease representing that it is the experience of executives in industrial concerns that "Oil-of-Salt" is the most effective first-aid used by them or that the majority of them use it exclusively.

SOLVING PRODUCT PROBLEMS

for... COSMETIC • PAINT • RUBBER and Allied Manufacturers

Shortages—Seller's Market—Substitutes. These are by-words in industry today. The product problems of manufacturers are many. When brought to us, we give each and every need careful and sincere attention. A new friend now may be a real friend for years.

As a source for talcs, clays and pigments for over fifty years, good service and satisfied customers have placed us in the high position we are in today.

With the diminishing of available raw materials, we must keep faith with our regular clients and new ones who seek us out.

Our Research Department is giving increased time and effort to find suitable alternatives for unobtainable products, not forgetting that

QUALITY IS OUR FIRST CONSIDERATION

Quality is our first consideration

CHICAGO: Harry Holland & Sons
PHILADELPHIA: Foltz & Company
TORONTO: Richardson Agencies, Ltd.

WHITTAKER, CLARK & DANIELS, INC.
260 WEST BROADWAY • NEW YORK CITY

2451

DRUG AND COSMETIC REVIEW

1942-43 EDITION

The Drug and Cosmetic Review, Sixth Edition, is the most complete and comprehensive reference book ever published for the use of those who buy raw materials, containers, machinery, and equipment for the production of drugs, cosmetics, perfumes, flavoring extracts, and allied products.

FOR BUYERS

1—The directory is in three separate, but consecutive sections for easy reference for: Packages, *Equipment, Chemicals and Raw Materials.*

FOR CHEMISTS, PERFUMERS

2—Thirty-nine separate articles on as many subjects, containing 116 pages of formulas and *manufacturing processes. Over 800 selected formulas on lotions,* bath salts, creams, face powders, depilatories, hair dressings, shampoos, *deodorants, permanent wave solutions,* tooth pastes, insect repellents, foot preparations, expectorants, ointments, etc.

FOR PLANT MANAGERS

3—A complete section devoted exclusively to exceptional plant arrangements and layouts.

4—Association Section.

5—*Statistical Section.*

6—The most complete reference of sources of supply for this trade ever published. Full story, many in catalog form, on where to buy and who to buy from.

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FORMULATING DRUGS AND COSMETICS
Acne
Aluminum Hydroxide Antacid
Acid Creams
Amino Glycol in Cosmetics
Anthelmintics
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Burn Therapy
Beauty Masks
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INDUSTRY'S BOOKS

The Art And Science Of Nutrition, by Estelle E. Hawley, Ph.D., and Grace Carden, B.S., 619 pp., Illus., The C. V. Mosby Co., St. Louis, Cloth, $3.50.

It is with the realization of the paramount need for scientific knowledge of food and its uses, and of disease and its metabolic consequences, that the authors have outlined in this text the principles of normal nutrition and have indicated when, why, and how modification of the normal diet may be necessary. This book stresses the fundamentals of nutrition and diet and contains much suggested reference material and a detailed appendix to enable the student to acquire a more thorough understanding of certain phases of this important subject. Many illustrations depict the more interesting and important phases of the subject matter and support the material presented in a clearly defined manner. The work is divided into the following six parts: Part I—Normal Nutrition; Part II—Food Requirements Under Special Conditions; Part III—Diet Therapy; Part IV—The Choice, Preparation, and Serving of Foods; Part V—References; Part VI—Appendix.

Food & Drug Regulation, by Stephen Wilson, 177 pp., American Council on Public Affairs, Washington, Paper binding, $2.50.

This work traces the attempt at regulation by government agencies of foods and drugs in its endeavor to establish and perpetrate standards which would insure the purity of these products and so protect the consuming public against abuses. It traces the opposition to such measures, the difficulties experienced in administration of the early laws covering these products, the campaign for new legislation, and the final inactment of The Food, Drug, and Cosmetic Law of 1938. The final chapter deals with the causes and consequences of such legislation. Contents: Food and Defense; History of Pure Food and Drug Legislation; The Federal Food and Drugs Law; The Difficulties of Administration; The Need for New Legislation; The Campaign for New Legislation; The Food, Drug, and Cosmetic Law of 1938; Causes and Consequences.

The Conquest of Bacteria, by F. Sherwood Taylor, 172 pp., Alliance Book Corp., New York, Cloth, $2.

This book, written by F. Sherwood Taylor, one of England's most eminent scientists and "simplifiers" of scientific knowledge, is the story of the chemical discoveries which conquered disease and of the men behind these conquests. The appeal of this volume is to the layman who is interested in reading a fascinating study of a subject heretofore reserved for the specialist. Contents: Bacteria and Disease; The Body's Defenses; The Development of Drugs; The Rise of Chemotherapy; Prontosil. The Sulphonamide Group of Drugs; Sulphonamides and Streptococcus Pyogenes; Pneumonia and M and B 693; Further Triumphs; The Need for Research; Table of Sulphonamide Drugs; Index.

The Electron Microscope, by E. F. Burton, and W. H. Kohl, 233 pp., Illus., Reinhold Publishing Corp., New York, Cloth, $3.85.

The authors played an outstandingly important part in introducing the electron microscope to American science and industry. This astounding tool of research—100 times as powerful as the best optical microscope—could magnify a dime to more than a mile wide—a human hair to over forty feet in breadth—approaches revelation of the very molecules themselves. Hundreds of scientists with unsolved problems of microscopy have availed themselves of the opportunity afforded by this marvelous instrument to see clearly what had been either completely invisible or only dimly perceptible. Contents: Vision; Light Microscopes; What Is Light?; Wave Motion and Wave Motion Media; The Wave Theory of Light Accepted; The Electromagnetic Theory of Light; The Electron; The Dual Theory of Light; The Dual Theory of the Electron; The Motion of Electrons in Electrical Fields; Electrostatic Electron Mirrors and Lenses; Magnetic Lenses; The History of the Electron Microscope; The Electrostatic Electron Microscope; Applications of the Electrostatic Electron Microscope; The Compound Electron Microscope—Magnetic Type; What the Electron Microscope Can Accomplish; General Bibliography; Index.

Outlines Of Food Technology, by Harry W. von Loesecke, 505 pp., Illus., Reinhold Publishing Corp., New York, Cloth, $7.00.

The purpose of this book is to outline the processes used in the modern food industry. The nutritive value of the different foods is not discussed, the volume being devoted to the more important food processes. For instance, the book is divided into the following chapters: The Tin Can and Glass Container; Fruits and Their Products; Canning of Vegetables; Dairy Products; Meat, Meat Products and Poultry; Fish and Shellfish; Grains and Their Products; Edible Fats and Oils; Sugars and Starches; Nuts; Spices, Relishes, Essential Oils, and Extracts; Beverages; Confectionery, Jams, Jellies, Preserves and Certified Dyes; Storage and Marketing of Fruits and Vegetables; Preservation of Foods by Freezing. The methods of preparing, preserving, and packing all the various food materials is completely discussed under each general chapter head. A very complete index to additional reference material is appended to each chapter for those interested in more detailed investigation.

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War work and the recent W.P.B. freezing order L-83, prevent us from promising early delivery of wrapping machines, except to those who have the highest priorities.

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PRODUCTION FORUM

By FRANCIS CHILSON
Production Engineer

WAR INDUSTRIES

The chemical industry emerged full blown from the last war. The plastics industry had its start about that time, and there are many other industries which owe their birth or initial impetus to the previous war. It is interesting to speculate what will come out of this one. It already is apparent from the interest shown at the Packaging Show that the dehydrated food industry will be a great industry. It is equally apparent that the concentrated food industry will receive a tremendous impetus. Vitamin and nutritional concentrates in various forms will inevitably come as a by-product of dehydrated foods. It is safe to assume that the dehydrated food industry will be a source of new products for the pharmaceutical trade. not only products having a nutritional aspect but other products as well. For instance, one of the big pharmaceutical houses is selling nickel pectin for the treatment of wounds. This product was a by-product of food dehydration. The chemical industry, especially the fine chemical industry, is bound to go ahead by tremendous leaps and bounds. It is apparent also that newly discovered chemical compounds will continue to supplant many of the old vegetable drugs and biologicals.

It is clear that the whole face of our industry will be changed by the war. In one particular, like the people in every other industry, we will be working for the government. I don't mean by this that there is any danger of communism or collectivism, but the national debt will be so great and will take such a tremendous share of all industrial profits that indirectly the effect will be the same. Certainly a lot of useless and duplicated preparations will be eliminated from the market. Government regulation will be stricter and the emphasis on specialties will continue to increase because it is only by the manufacture of long profit items that corporations can hope to pay the crushing burden of taxes that will be imposed on them. All these things are appreciated by the forward looking minds in the industry and it is interesting to note that along with the scramble for war contracts, a lot of sound research and merchandising plans are being developed for the post war period.

MEN WANTED

One of the big ethical pharmaceutical houses is interested in getting hold of a man who has had extensive production experience in the manufacture of pharmaceuticals. The job will be as an assistant to the present plant superintendent. It is essential that the man be under forty years of age.

I have another job open with one of the essential oil houses which requires aromatic chemical or essential oil experience. This is a job for a chemical engineer or a chemist and not for a perfumer.

I also have a couple of jobs for qualified and experienced chemists preferably those having Ph. D's. And one of my friends needs a purchasing assistant familiar with packaging materials. Good job. Good pay.

SUBSTITUTES

Colonial Alloys Co., Philadelphia, have introduced a series of new plastics through their chemicals division which they claim can be substituted in certain applications for rubber, copper, tin, aluminum, monel, and stainless steel. This is a pretty large order but their first report indicates that these plastics have rather extraordinary properties. Production is under way to make these plastics in various forms such as thread, tubing, rods, sheets, and various extruded shapes. Flexible and rigid grades are obtainable. These plastics are known as V Plastics.

How to Get Maximum Wear from Tablet Machines, Punches and Dies

It is imperative, because of unavoidable delays or even the possibility of our being unable to furnish new punches and dies as well as machine parts, that all operators, especially the new men coming into Industry, be told the importance of cleanliness and lubrication.

Stokes machines are carefully made, from the finest of materials. They will give you long, economical service if these few simple suggestions are followed:—

- **Keep machines clean**
- **Keep parts properly lubricated**
- **Don't use more pressure than necessary**

Single Punch Machines require thorough lubrication at regular intervals and inspection to make sure that punches are always properly aligned and locked securely in place.

Rotary Machine punches should be removed and cleaned daily. Wipe off pressure rolls with oily cloth. If material is abrasive or sticky remove and clean lower cam tracks. Lubricate these and all other parts and replace punches ready for next day's run. At least once a week, if material is difficult, punches and lower cams may be washed with kerosene to remove accumulated dirt and grease. Also take off rear apron guard and inspect worm. If grease is dirty, flush out with kerosene. Also clean all material from the weight adjusting cam.

GENERAL CARE OF PUNCHES AND DIES. The best method for lubricating rotary punches is to massage clean grease thoroughly all over shanks and heads, rather than give them just a wipe or two. Never permit a Rotary Machine to be run empty; this allows upper and lower punches to come into direct contact.

Reduce pressures whenever possible, because wear is directly proportional to the amount of pressure applied. Excessive pressure means excessive wear—sometimes bends punches. Rebalancing formulas to make softer granulations usually makes it possible to avoid heavy pressures.

Our laboratory division will be glad to supplement these suggestions or answer specific questions on tablet manufacture and equipment maintenance.

F. J. STOKES MACHINE COMPANY
5932 Tabor Road Olney P. O. Philadelphia, Pa.
Representatives in New York, Chicago, Cincinnati, St. Louis, Cleveland, Detroit
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F.J.Stokes **TABLET MACHINES PHARMACEUTICAL EQUIPMENT** FJS Est. 1895

DRYING

A singular discovery has been made in connection with drying foods; namely, that if certain food products are dried quickly at very high temperatures, there is, so it is claimed, no appreciable loss of enzymes, flavor, or vitamins. The Sardik Food Products Co. is a pioneer in a method of dehydrating foods which in some instances uses very high temperatures. This runs counter to the practice generally accepted in the drug trade for the preservation of vitamins. Our practice is to keep the temperature as low as possible and never to allow it to exceed 120° F. There may be something in the theory of drying at temperatures in excess of 500° F. Sometime ago V. P. Victor, chief engineer of the J. O. Ross Eng. Co., told us that the future of drying in certain fields lay in the development of flash drying equipment which would dry products at temperatures up to 1,000° F. At the moment we passed it off as another one of Victor's brainstorms. But there may be something in it because some of the spray dryer people are claiming to be able to preserve vitamins by instantaneous flash drying at high temperatures. If there is anything in this, the discovery parallels the quick freezing theory wherein it was shown that if food is instantly frozen it will not lose its color or flavor whereas it will lose both if it is frozen slowly.

BLACKOUT CONTROL

The Photoswitch Co., 21 Chestnut St., Cambridge, Mass., have introduced a photoelectric blackout control which is pretty clever. It is designed primarily to control illuminated signs, window displays, and the like and it is mounted in alignment with the nearest street lamp. When the street lamp is turned off, the photoelectric device is actuated and, through an appropriate series of relays, the lights in the show window or on the billboard are turned off.

THICKENER

Shortly after the last chemical show we brought to your attention the thickener recently introduced by T. Shriver Co., Harrison, N. J. You will remember that this thickener was nothing more nor less than a plate and frame filter in which the plates were designed to permit seriatum operation. At that time we mentioned that this thickener might be useful for those who are still making milk of magnesia by the double decomposition process. I have a report before me on its use in this very instance which I thought would be interesting to you. Although very few people are making milk of magnesia this way, the report is nevertheless given verbatim because of the possibility that you might have some other process in connection with which a thickening operation would be a time saver.

"The sample received contained only 2 per cent. solids. The final product from the thickener had 22 per cent. solids. Had we started with a greater volume of fluid, this could have been thickened down to at least 27 per cent. solids. The thickening was carried out at 150° F. with a reduction in the first pass to 20 per cent. of the original slurry volume, at the rate of 41 gallons per square foot per hour. This reduced volume now had 10 per cent. of solids which was then washed with cold water. The washing was done at constant volume by admitting wash water to the system at the same rate as the filtrate was removed. Since there was not enough test material sent us by the client, both hot and cold washing tests could not be run but it is very probable that the washing rate with hot water would be distinctly faster than the 16 gallons per square foot per hour rate established for cold water washing. However, it is questionable if hot water washing is desirable in view of the cost of heating the water.

"Following the washing, the slurry was further thickened to about 10 per cent. of the original volume, this being carried out at room temperature, with a discharge rate of 15 gallons per square foot per hour. This slurry contained the 22 per cent. of solids mentioned above.

"From these tests we feel that the thickener could handle a rather large column of material and, compared with existing thickening methods, it offers definite possibilities for economies in equipment, plate space, and processing time."

MORE BULL

Says George Lectrodryer Simpson, "I have had the habit for some years now of quickly glancing through the Production Forum just to check up on any "censorable" material before more leisurely reading. I certainly got the shock of my life when I did this for the March issue. After my utter astonishment subsided I began to appreciate the honor and racked my brains for days to endeavor to properly express my appreciation. I turned to poetry 'But alas' I found I was not a poet so behold the result!

I never heard Vic Victor moo
(I'd give a lot to hear it)
But after what you say he does
I don't think I could bear it.

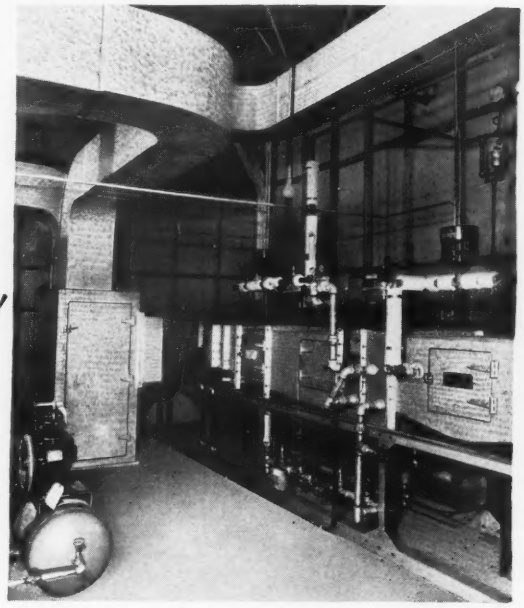
I never saw a Chilson Bull
(I hope some day to see one)
But isn't it just wonderful
TO THINK A GUY CAN *BE* ONE?

Bull-ieve me, I remain (in spite of all this), your friend, George."

Says Mr. Howard Sumner, "In reading your column in the March issue I have run across the article entitled 'Introducing Taurus Victor Simpsonius.' If the adjacent picture is that of a bull, I must say that this particular breed has become highly developed in certain parts of its anatomy."

V. P. Victor to date has maintained a dignified snorting silence.

Weather or not—we must have *good* DRUGS



Close-up view of Ross apparatus used in air processing drugs

It's time for Modern Methods!

Ross Air Systems for the Drug Industry are not only speeding up production but improving uniformity of output as well. In many cases they have greatly increased production with less floor space and less processing equipment. Operating costs and spoilage losses are being cut to a minimum. Take steps now to increase quantity and improve quality of your product. Ross engineers will gladly submit recommendations for your requirements—without obligation.

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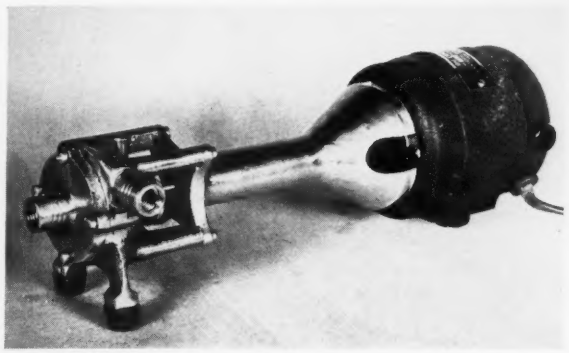
HOT LIQUID PUMP

The Eastern Eng. Co., New Haven, Conn., announces the introduction of a newly designed and engineered midget hot liquid pump. Its main features are its compact size and construction, its performance characteristics in relation to size, and its design which makes it suitable for handling hot liquids up to 500° F. The pump can be used in industrial, pilot plant, laboratory, and experimental applications where thin liquids are to be handled.

This centrifugal pump is 12″ long x 4″ wide x 4½″ high and weighs seven pounds. It has a 1/20 H.p. fan cooled motor for use on 115 volts, A.C. or D.C. The



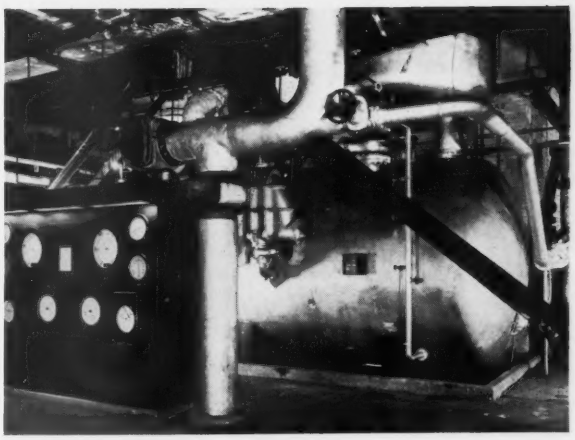
stuffing box is accurately adjustable by means of an easily accessible adjustment ring. Motor and pump are coupled through a 5″ heat radiating tube. The shaft is supported by outboard ball bearings. Maximum pressure is 21 pounds per square inch and maximum volume is 7½ gallons per minute.

CONDENSATE RETURN

While applications of the Cochrane-Becker high pressure condensate return system produce impressive savings in processing operations where quick heating is necessary, the savings in one instance are particularly impressive. In this case steam is supplied the process at 120 lb. to 125 lb. per square inch. The condensate return system evacuates the equipment at 85 lb. per square inch. Previously, the returning condensate flashed in an open hot-well was in a large measure wasted, and the heat from the 5 lb. exhaust of a compressor engine was completely wasted to atmosphere. Now the high-pressure condensate is returned direct to the boiler at a temperature approximating 325° and the 5 lb. compressor exhaust is completely utilized in heating makeup.

The net result of the installation was an estimated 28 per cent. fuel saving which was due in part to the better heat balance made possible by use of the previously-wasted compressor exhaust.

Another piece of equipment made by Cochrane Co., Philadelphia, is an atomizing deaerator recommended for stationary boiler work where the water is turbid and contains carbonate hardness that might readily



foul tray type deaerators and where the water to be deaerated is high in carbon dioxide (i.e. low in pH value), which might cause rapid deterioration of the cast-iron trays. No differentiation is made between the atomizing deaerator and the tray type from the standpoint of performance.

A Michigan installation was the first large capacity atomizing type deaerator manufactured and it was selected in place of a tray type deaerator due to the high maintenance on tray heaters. Rusting and deterioration of trays had been caused by the low pH value of the boiler feed water which is zeolite-softened and then treated with sulfuric acid to reduce the alkalinity.

A 400,000 lb. per hour vertical unit was purchased by another Michigan industrial plant instead of a tray type of heater on the basis of test results. The excellent performance of this atomizing type deaerator has since been confirmed. With the installation of the atomizing type of unit the internal structures have been notably free of corrosion and deterioration, at the same time delivering zero oxygen water.

COLOR COATING

Many firms seem to have a great deal of difficulty making a uniform color coating on tablets and pills. Sometimes a uniform job is secured but upon standing the coating becomes discolored due to chemical incompatibility of one sort or another. These cases are exceptions. Mottled coating generally is caused by improper application of the coloring material. When a batch of tablets is being colored, make up your mind to it that you cannot put them in the pan in the morning and take them out in the afternoon. Good coloring is done by slow degrees. It generally takes from twelve to eighteen applications of color glaze in order to build up a uniform color. Some coaters follow the practice of first applying to the tablets a very concentrated color solution and the successive applications are gradually diluted. Other coaters follow the opposite practice and begin with dilute solutions and still others put coloring material into the base coating of the tablet so as to make the final coloring operation easier. Gen-

WORLD LABELERS' *Place in the* VICTORY *Program*

Here, in a nutshell, is the labeler situation:

1. Labeled glass containers are now more important — more useful than ever. The needs of soldier and civilian alike demand peak production of innumerable glass packed products.

   Nevertheless, the skill, experience and production resources that have gone into the building of WORLD Labelers are now being enthusiastically employed for the direct manufacture of war materials and equipment.

2. WORLD Labeler service and repair facilities will be maintained to the utmost limit of our ability in order that your labelers may continue to function with *maximum effectiveness however long and hard they may be used.*

   Do not fail to get in touch with WORLD headquarters for information and assistance on labeler care, maintenance and adaptation to new or changed requirements, as well as for new labelers of vital importance to the Victory Program.

3. WORLD Labeler engineers continue to concentrate on the job of constant development and improvement of automatic labeling in order that it may be confidently stated in the years to come as in the years past that "you get the best labeling in the WORLD."

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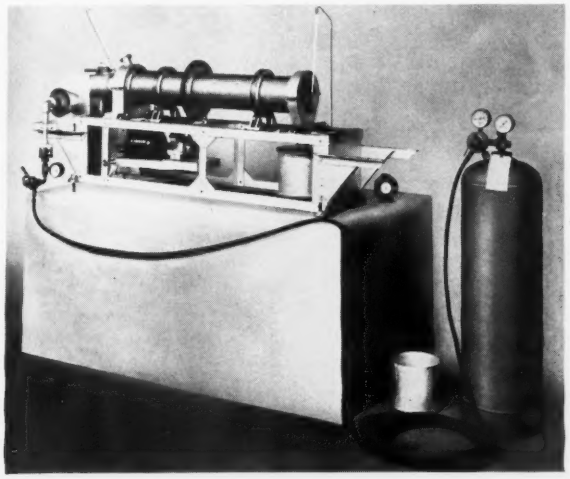
WORLD LABELERS

erally speaking, it is easier to color tablets with dark or strong colors than it is with light delicate pastel shades. If anybody can tell me how to speed this job up, I would like to know how it can be done.

EXPERIMENTAL ROTARY DRYER

The C. O. Bartlett and Snow Co., Cleveland, Ohio, has recently introduced a small sized rotary dryer which is ideally suited for, and already being used in experimental and research work in laboratories and for student instruction in technical schools and colleges.



This unit has a cylinder 6" in diameter by 35" long, fitted with internal feed and lifting flights. The cylinder is carried on a pair of steel riding rings, supported on trunnion rolls and is rotated with a girt gear and sprocket drive. Different size driving sprockets permit four variations of rotating speeds from 2.06 to 4.92 R.P.M. The cylinder ends have machined seal rings which engage split breechings. The feed breeching is equipped with a feed chute. The discharge breeching has a hoppered bottom and discharge chute arranged to connect to a covered receptacle.

The heat for drying is supplied by burning any of the standard "bottle gasses" marketed under the names "Pyrofax," "Philgas," etc. Air temperatures range from 110° F. to 800° F. Air volumes may be regulated from 0 up to about 100 C.F.M. The heating unit complete with gas burner, fan, and motor is easily transferred from one end of the dryer cylinder to the other, permitting the dryer to be used in either parallel or counterflow operation.

The whole apparatus is mounted on a self-contained steel base, and is easily set for any slope to the horizontal by simply turning jack screws. The standard equipment, besides the dryer, includes a level for determining slopes, a ¼ H.P. 100 volt, single phase 60 cycle A.C. motor, 5 feet of extension cord, reducing valves, fuel connecting hoses, and necessary connectors, etc.

MIXER FOR HEAVY MATERIALS

A recent development in the line of mixing equipment built by L. O. Koven Brothers, Jersey City, N. J., is a special unit which incorporates in one mixing tank three means of agitation so as to produce completely homogeneous diffusion, kneading, blending, and absorption in viscous masses or thick compounds. This makes the equipment particularly valuable for plastic materials and solids suspended in heavy liquid vehicles and the like.

The container is an all welded tank with dished bottom, which may be made of steel or any other metal to suit. An outside jacket may be provided for heating or cooling the product during the mixing process. The cover which is gasketed and bolted to the tank is provided with a manhole, which can be opened quickly by

turning the hand wheel to release a lever which holds the cover in place. The outlet valve at the concave bottom may be any type best suited to permit quick flow of the mixture.

The agitating mechanism consists of a vertical shaft, the upper terminus of which is coupled to a speed reducer driven by a motor. A three blade ship-type propeller is mounted on the shaft half-way down its length in the tank but can be adjusted to any other desired depth. At the bottom end of the shaft there is a turbine type impeller. The tank itself has four baffles projecting radially in four quadrants along the cylinder but mounted several inches away from the cylinder wall.

Rotation of the propeller causes the material to be sucked down toward the turbine which then, because of the pitch of its blades, gives the material a combined peripheral and upward motion. As some of the material strikes the baffles it is turned back to be given that extra rotary kneading or turn-over action. At the

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FASTER

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POWDERS—
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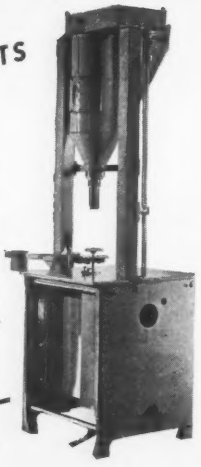
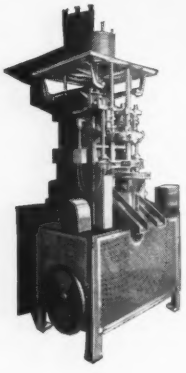
The S & S Universal Filler . . . a versatile machine that accurately fills almost any type of container with almost all materials (not liquids). Easy to change over materials or packages. Needs only 1 operator. Speeds 15 to 30 per minute.



INDIVIDUAL PACKAGES
of Cellophane — Pliofilm
or Heat Sealing Paper



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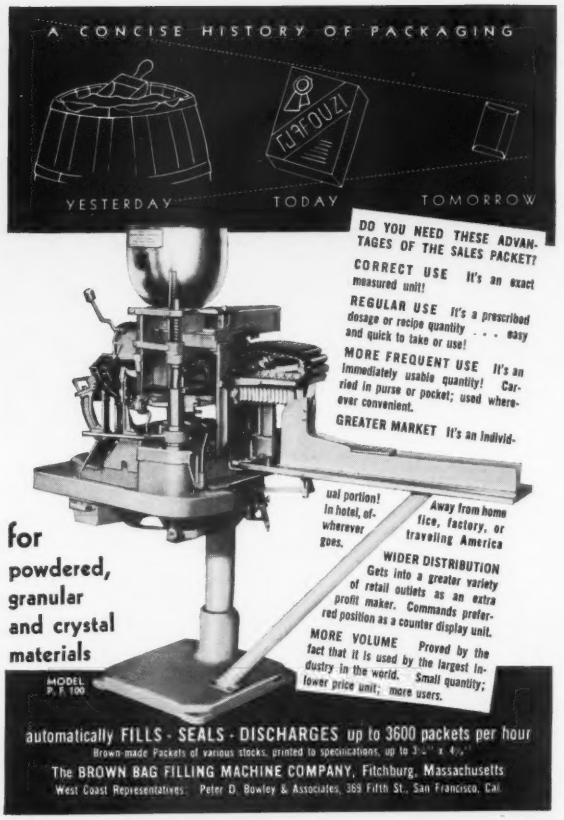
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TODAY
TOMORROW
DO YOU NEED THESE ADVANTAGES OF THE SALES PACKET?
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REGULAR USE It's a prescribed dosage or recipe quantity . . . easy and quick to take or use!
MORE FREQUENT USE It's an immediately usable quantity! Carried in purse or pocket; used wherever convenient.
GREATER MARKET It's an individual portion! Away from home in hotel, office, factory, or wherever goes. traveling America
WIDER DISTRIBUTION Gets into a greater variety of retail outlets as an extra profit maker. Commands preferred position as a counter display unit.
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automatically FILLS - SEALS - DISCHARGES up to 3600 packets per hour
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same time some of the material flows between the baffle and cylinder which gives it a shearing effect. Thus, the entire mass goes through a continuous suction, dispersion, kneading and shearing cycle which rapidly disintegrates and distributes uniformly any solids in the vehicle and intimately and homogeneously mixes two or more fluids of dissimilar specific gravity and viscosity.

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CORRECTION

The tape sealing machine described in the last issue was manufactured by Package Machinery Co. and not Minnesota Mining. Our apologies for the error. Another model of this machine is being used by the tobacco companies for applying the Scotch Tape around the top of smoking tobacco tins.

News

(Continued from page 529)

McKesson Earnings

McKesson & Robbins Inc. reports for the three months ended March 31, 1942, a net profit of $708,981, after interest, and provision for estimated Federal taxes of $1,698,000. This is equivalent to 38 cents a share on the common stock. Provision for taxes was based on existing tax rates, plus $200,000 for probable tax increases.

If the company's present capitalization had been in effect during the first three months of 1941 net profits for the period would have been $927,867, after Interest, and Federal taxes of $545,000 based on the then existing rates.

The company's net sales for the period were $52,945,691, an increase of 28.74 per cent. over the $41,125,178 earned in the corresponding period of the previous year.

Monsanto Earnings

Monsanto Chemical Co. reports an increase in sales during the first quarter of 1942 of 14 per cent. over the comparable quarter of 1941 to $16,439,014. The net income was $4,385,364 before provision for income taxes. Using rates now in effect Federal income and excess profits taxes would be $2,796,453, and the balance $1,588,911 would be equivalent to $1.10 a common share, comparing favorably with the 98 cents a share for the first quarter of 1941.

However, because of the prospect of higher taxes the company has provided an additional $810,000, increasing the amount reserved for taxes to $3,606,453. On this basis the remaining income is $778,910, equivalent to 45 cents a common share.

National Oil Profit Up

National Oil Products Co. reports for the March quarter a net profit of $187,350, equal to 87 cents each on the common shares and comparing with revised net profit of $139,707, or 65 cents a share last year.

Northam Warren Net Up Sharply

Northam Warren Corp. reports for 1941 a net income of $410,589, equal to $1.56 a share on the common stock and contrasting with a net loss of $189,778 in 1940.

Norwich Earnings Steady

Norwich Pharmacal Co. reports for the quarter ended March 31 a net profit of $156,742, or 19.7 cents a share. This compares with a profit of $156,830, or 19.9 cents a share earned in the first quarter of 1941. Provision for Federal taxes this year was $259,562, against $114,827 last year.

Owens Net Up

Owens-Illinois Glass Co. and wholly-owned subsidiaries report for the twelve months ended March 31 a net income of $9,513,648. This is equivalent to $3.57 a share and compares with $7,297,003, or $2.74 a common share earned in the preceding twelve months. Provisions for Federal income and excess profits taxes this year was $12,824,538, against $2,644,085 in the previous year.

The company's total revenue amounted to $140,231,537 for the twelve months, an increase of $48,046,653 over the total for the preceding twelve months.

Vadsco Net Higher

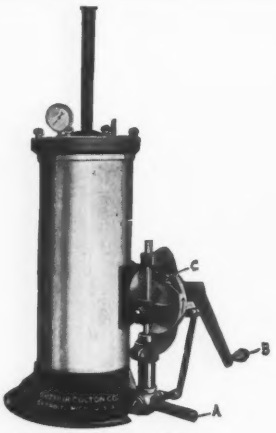
Vadsco Sales Corp. and subsidiaries report for 1941 a net profit of $121,553, or $5.72 a share on preferred stock in arrears, against $77,813, or $3.66 a share of preferred in 1940.

Walgreen Earns More

Walgreen Co. and subsidiaries report for the six months to March 31 a net income of $1,754,567, equal to $1.19 a share. This compares with a net profit of $1,700,452, or $1.15 a share for the six months ended March 31, 1941.

Zonite Earns Less

Zonite Products and subsidiaries report for the March quarter a net profit of $34,408, equal to 4 cents a share and comparing with a profit of $51,901, or 6 cents a share earned in the March quarter of 1941.



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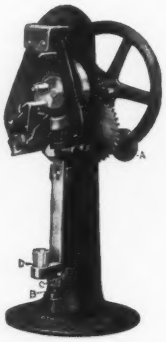

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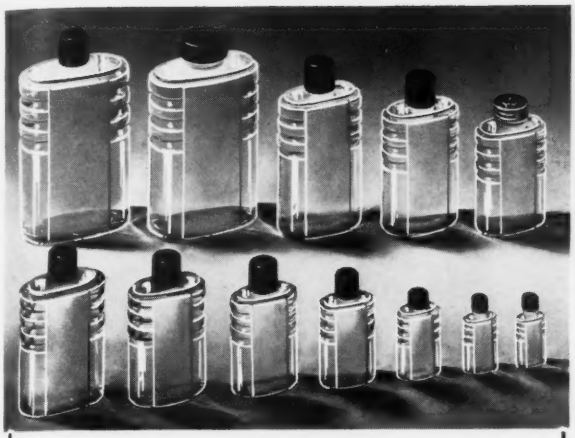

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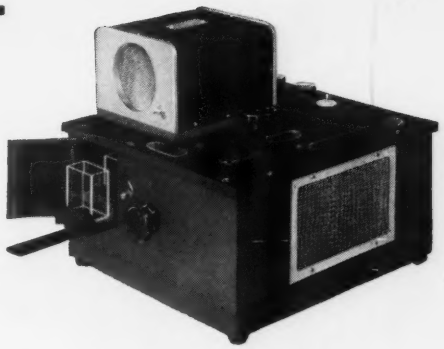

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SODIUM ALGINATE

Sodium alginate occurs as a pale yellow, light powder, which dissolves fairly rapidly in water with trituration or high-speed mixing, a 2 per cent. or 4 per cent. solution being found convenient. This is a pale brown, thickly flowing mucilage somewhat similar to a solution of pectin, with which sodium alginate has structural affinities. Preliminary trituration with glycerin, sugar or alcohol increases the rate of solution, but the alcohol content in any finished preparation must not exceed 5 per cent., otherwise precipitation of the alginate occurs.

In experiments with sodium alginate an emulsion made on the basis of the B.P.C. formula for mineral oil with agar, in which the agar and tragacanth content were replaced by an equal weight of sodium alginate, proved to be equal in all respects to the original. Moreover, it was found that an emulsion made with 1 per cent. sodium alginate was equally thick, and, though not perfectly white, showed equally fine dispersion under the microscope and was quite stable. Simple dilution of this emulsion with an equal volume of water, representing a 25 per cent. emulsion of liquid paraffin with ½ per cent. sodium alginate resulted after homogenizing in a stable, non-creaming preparation which was pourable.

The difficulty of obtaining a fairly free-flowing 50 per cent. emulsion using sodium alginate alone could not be overcome until the proportion of the latter was reduced to 1/8 per cent., which was insufficient to maintain a very fine dispersion. Moreover, the addition of acacia enhances the whiteness of any emulsion. Working with minimum quantities, it was found possible with homogenization to produce a stable, white emulsion which was pourable with as little emulgent as ¼ per cent. acacia and 1/8 per cent. sodium alginate. The acacia may be doubled if the emulsion is to be kept for a long time, or where increased viscosity is not objectionable the quantities of both ingredients may be doubled.

With regard to a preservative, which is essential whether the emulgent is subject to bacterial attack or not, a combination of sodium benzoate and sodium chloride with saccharin and vanillin for flavoring purposes is satisfactory, the slightly increased viscosity produced by sodium benzoate being counteracted by the slight liquefying effect of the sodium chloride. *Pharm. J.*

STORAGE OF PHARMACEUTICALS

A very extensive study of the storage of light-sensitive chemicals was made. An attempt was made to determine in what way light affects the pharmaceuticals and to what extent the destruction proceeds. Methods of protecting against the deleterious effects of light were also investigated.

The following pharmaceuticals described by the Swiss Pharm. V as light sensitive were investigated: ether for anesthesia, amyl nitrite, cherry laurel water, bromoform solution, chloroform for anesthesia, sterile olive oil, phosphorated oil, paraldehyde, sweet spirits of nitre, concentrated hydrogen peroxide and dilute hydrogen peroxide.

With some of the pharmaceuticals studied (dherry laurel water, bromoform solution, concentrated hydrogen peroxide, sweet spirit of nitre and ether for anesthesia) the promotion of changes by light was so very pronounced, that it must be considered the most harmful factor. For the remainder of the substances, other influences such as air, water, evaporation, etc., act as strongly or stronger than light. In all cases the deterioration of the pharmaceuticals was the greatest when stored in colorless bottles.

The following tabluation indicates the proper means of storing the preparations investigated and affords sufficient protection: sterilized neutral olive oil in light brown or dark brown glasses; ether for anesthesia, cherry laurel water, chloroform for anesthesia, concentrated and dilute hydrogen peroxide, phosphorated oil and paraldehyde in dark bottles; amyl nitrite and bromoform solution in dark brown or red bottles wrapped in black paper; and sweet spirits of nitre in dark brown bottles wrapped in black paper. *J. Buchi and V. Kurer. Pharm. Acta Helv., 15 (1940), 59-112; 123-141.*

HYDROPHIL BASES AND SULFONATED OILS IN OINTMENTS

By the use of new waxes and synthetic wetting agents, the author has improved ointment bases, oil-in-water emulsions, lotions and cleansing creams. Lanolin and petrolatum ointment bases present the disadvantages of inactivating medicinals, interfering with skin metabolism and are difficult to remove. To obviate these disadvantages an improved oil-in-water base is formulated from white wax, tegolan (a synthetic wax + 40% cholesterol), cetyl alcohol and peanut oil. A greaseless ointment base, resistant to strong acids is prepared from Tegacid (acidified glyceryl monostearate). Disadvantages of the usual aqueous lotions such as high surface tension or presence of irritating alcohol and insulating vegetable gums, may be remedied by the use of Aerosol O.T.

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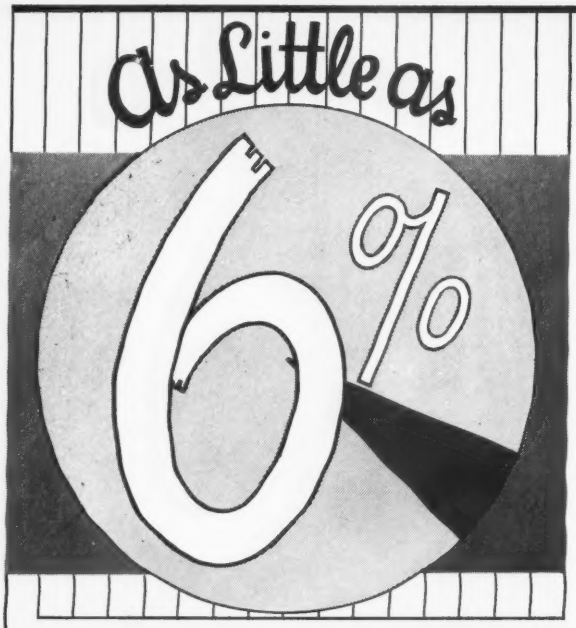

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(dioctyl ester of sodium sulfosuccinate) and diethylene glycol. Aerosol O.T. is also excellent for preparing oil-in-water emulsions. Oral test with rats and application to human wounds have shown Aerosol O.T. to be non-toxic. Soapless detergents and cleansing creams made from sulfonated fixed oils are proving less irritating and generally more useful than the older type with alkali and triethanolamine soaps. *Elmo D. French. Southern Med. J., 34 (1941), 284-287.*

COLLOIDAL SULFUR

Native sulfur (flowers of sulfur) dissolved in the cold in glycerin or one of the glycols gives, on dilution with water, a product containing colloidal sulfur—a sulfur which, in other words, may be regarded as sufficiently "active" to merit use in dermatological and cosmetic practice.

Add, for example, to 1 litre of water, 50 grams of a solution of sulfur in glycerin. A milky liquid is obtained, in which the colloidal sulfur remains in suspension for several months with a tendency to precipitate little by little. The addition of a suitable colloid, such as a gum or gum substitute, preserves this solution for quite a long while in its original colloidal form.

Sulfur-containing oils give excellent results in the care and treatment of the hair; with the addition of appropriate essential oils (lavender, ti-tree, thuja, etc.), such preparations are extremely useful in the prevention and treatment of falling hair, alopecia, and even canities.

In general, most of the cosmetic applications of sulfur are beneficial. Obviously, the form in which the sulfur is utilized should be a sufficiently active form. It is also highly desirable that the pH of the base or excipient should be low (preferably 6 to 6.2—orange and yellow coloration with bromothymol blue). Skin affections most effectively treated with sulfur are those characterized by a pH higher than normal (i.e., green and green-blue coloration with the aforementioned indicator).

Preparations such as emulsions based on triethanolamine and other alkalies should theoretically be excluded from consideration in this respect, because of their high pH (usually higher than 7). However, they cannot be completely ruled out—although it is preferable to use other bases, with a lower pH value, wherever possible. Nowadays sufficient hydrophilic raw materials are in existence to permit the complete replacement of alkaline emulsifying agents. *R. M. Gattefosse, S.P.C.*

MODIFIED CALAMINE LOTION

Dr. George V. Kulchar suggests the following formula for a modified calamine lotion:

Prepared calamine	35 Gm.
Bentonite	7 Gm.
Zinc phenolsulfonate	10 Gm.
Glycerin	10 cc.
Aqua Hamamelis	50 cc.
Water, *q. s.*	240 cc.

Dilute the glycerin with an equal quantity of water. Add the calamine in small portions to this solution in a mortar, triturating to a smooth paste between each addition. Sprinkle the bentonite upon 93 cc. of hot water, a little at a time, until the bentonite has all been wetted, allow to cool and triturate in a mortar to remove lumps, and set aside for about 3 hours. Dissolve the zinc phenolsulfonate in 50 cc. of water, add the hammamelis water and dilute the magma with this mixture. Gradually incorporate the diluted magma in the calamine mixture and add sufficient water to make 240 cc.

Dr. Kulchar compares the modified lotion with calamine lotion and states that the modified product has the advantage of greater stability, has less tendency to form gritty particles on the skin and spreads more easily over the surface of the skin. It is easier to remove with water and forms a smooth film not easily removed from the skin by rubbing against clothing. *Arch. Derm. & Syphil., 44:1 (July 1941), 43.*

TEMPERATURE INDICATORS

The following inorganic combinations with methenamine and water are listed as agents for indicating temperatures based on color changes: $CoCl_2.2C_6H_{12}N_4.10\ H_2O$, color change at 35°, color change rose-blue; $CoBr_2.2C_6H_{12}N_4.\ 10\ H_2O$, 40°, rose-blue; $CoI_2.2C_6H_{12}N_4.\ 10\ H_2O$, 50°, rose-green; $Co(CNS)_2.2C_6H_{12}N_4.\ 10\ H_2O$, 60°, rose-blue; $Co(NO_3)_2.2C_6H_{12}N_4.$ 10 H_2O, 75°, rose-purple; $CoSO_4.C_6H_{12}N_4.$ 9 H_2O, 60°, rose-violet; $NiCl_2.2C_6H_{12}N_4.$ 10 H_2O, 60° and 100°, bright green-violet and yellow-violet; and $NiBr_2.2C_6H_{12}N_4.$ 10 H_2O, 60°, bright green-blue. Other temperatures not indicated in the table may be obtained by various combinations of the products listed.

ANTISEPTIC MOUTH RINSE

Urea is an efficient buffering agent for those acids produced in the mouth which are thought to favor the development of dental caries, but urea is active for only a short time. Drs. E. C. Wach, J. F. O'Donnell, and M. K. Hine, of the Department of Dental Pathology and Therapeutics of the University of Illinois, Chicago, have investigated the combination of urea with other drugs in a search for a mouth rinse that would act as a buffer and also be bactericidal. Because quinine salts will prevent the formation of lactic acid and butyric acid and in a pH of 7.4 or above are more actively germicidal, the urea-quinine-glycerin combination was selected. A mouth rinse of the following formula has been developed:

Quinine hydrochloride	0.5
Urea (C.P.)	4.0
Glycerin	25.0
Sterile distilled water, *q. s.*	100.0

Flavoring and coloring were added and the solution adjusted to a pH of 6.8 to 7 by sodium hydroxide. Different concentrations of the drugs are now being tested.

Laboratory tests showed the solution reduced the acidity of saliva-glucose mixtures and reduced the bacterial growth in acid dextrose broth and on tomato agar plates.

Patients were instructed to use the mouth rinse three times a day, holding 1 tablespoonful of solution in the mouth for 3 minutes each time. The salivary pH rose and the bacterial count was markedly reduced.

The rinse is apparently non-toxic, non-irritating to mucous membranes, stable if carefully prepared and stored, inexpensive, and is an effective germicide and buffering agent. One drawback is the bitter quinine taste which persists for 1 to 3 hours but which patients report becomes less objectionable after a few days. Clinical studies of this rinse are being continued.

The authors suggest the possibility of incorporating the quinine and urea in a dentifrice or lozenge. *J.A.D.A. vol. 29, p. 61.*

SYNTHETIC RESIN DENTURES

Methyl methacrylate resin and acrylicvinyl resin are in general the most satisfactory for denture bases, as far as the results on laboratory and experimental dentures are concerned.

The copolymers of acrylic with vinyl resin showed low dimensional change and water absorption, but were more difficult to process than methyl methacrylate resin.

Methyl methacrylate resins and other resins that have met all the requirements of the A. D. A. Specification as published have been found to be satisfactory for denture base construction.

Perfumers Shelf

PURE GERANIOL

Geraniol has been separated and purified by means of its calcium chloride addition compound for many years. The method as described by Gildemeister and Hoffman and by Parry involves direct mixing of calcium chloride with the oil or a suitable fraction, followed by separation of the uncombined material by a water-immiscible solvent. This method is laborious and the yields are poor.

It has been found that treatment of a hexane solution of the geraniol-containing oil with calcium chloride, together with certain other changes in technique, effects a marked improvement, especially as to ease of handling. Pentane was tried, but hexane was more satisfactory. Practically complete conversion to the addition compound was obtained after 2-hour stirring. The modified method gave a product of higher purity and a better yield. From a suitable fraction of commercial geraniol, two successive separations of the addition compound were sufficient to give substantially pure geraniol. Commercial geraniol of the type used in Japanese beetle bait, prepared by the fractional distillation under reduced pressure of Java citronella oil, was subjected to steam distillation. The first 75 per cent. of the distillate, containing about 40 per cent. of geraniol, was used for the preparation of pure geraniol.

In a flask fitted with a mechanical stirrer and reflux condenser, powdered, anhydrous calcium chloride were suspended in hexane by rapid stirring, and the first 75 per cent. fraction of commercial geraniol were added. Stirring was continued for 2 hours, when the mixture was filtered rapidly by suction and the residue washed with hexane. The solid addition product was decomposed by addition to ice water with rapid stirring. The aqueous layer was separated, and the geraniol layer was washed with water and dried over anhydrous sodium sulfate. The dried product was then added to a suspension of calcium chloride in hexane and stirred, and the solid product was separated and decomposed as before. The dried product was freed of hexane under the water pump and then subjected to fractional distillation under reduced pressure (1-2 mm.). *H. A. Jones and J. W. Wood, Ind. Eng. Chem.*

ESSENTIAL OIL ADULTERANTS

Adulterants, when present in considerable quantities, are recognized by odor and the physical constants of the suspected sample or its fractions by distillation or freezing, when the constants fall outside the range recognized for genuine standards.

Turpentine, pure or itself adulterated, was once most frequently used; but it is nowadays less encountered because it is easily discovered. It is best recognized in the first 10 per cent. fraction distilling at 160° by odor, lower specific gravity and solubility in alcohol, optical rotation (plus or minus), and low boiling point.

Alcohol and Acetone are indicated by lowered specific gravity, increased solubility in alcohol and fatty oils, turbidity given by drops when they fall through water, and increase in the refractive index of sample when it is washed with water.

Chloroform, an occasional adulterant (e.g. of cognac oil), is recognized in the first fraction distilling on the water-bath by the characteristic repugnant odor of phenyl isonitrile which is produced when a few drops of the distillate are warmed with a few drops of aniline and alcoholic NaOH.

Fatty Oils are indicated by an oily stain left behind on test paper, on evaporation of a sample, and by insolubility in 90 per cent. alcohol. Involatile or resinified oils will, however, leave a similar stain, even when genuine; and castor oil is soluble in 90 per cent. alcohol. But castor oil is insoluble in 70 per cent. alcohol and in petroleum ether it is also optically active (plus 5°).

Cedar, Copaiba, and Gurjun Balsam Oils are inexpensive and faintly aromatic; they can, however, be easily recognized by difficult solubility in 90 per cent. and 95 per cent. alcohol, high specific gravity (above 0.9), boiling-point (above 250°), and laevo-rotation: −25° to −44°; −7° to −35°; −35° to −130° respectively.

Mineral Oils can be separated out by washing with alcohol, in which they are insoluble. They have a low refractive index and specific gravity, and are stable to conc. H_2SO_4, fuming HNO_3, and boiling KOH solution. *S. P. C.*

SYNTHETIC p-CYMENE

Production of synthetic *p*-cymene (structurally *p*-methylisopropyl benzene) from liquid terpenes is announced by the Hercules Powder Co., Wilmington, Del. A new unit for the production of the material is nearing completion at the Brunswick, Ga., naval stores plant of the company. An important use of *p*-cymene has been as an intermediate in the manufacture of phenols, carvacrol, thymol, and the cyclic alcohol, menthol. The essential oil industry consumes substantial quantities of carvacrol in the manufacture of odorants used in soaps.

PEACETIME SURVEYS SERVING WARTIME EMERGENCY....

WHO would have thought that Fritzsche Brothers' world surveys of essential oil production, initiated by the company seventeen years ago, would be called upon some day to help in a national emergency? Yet that, today, is the case. And as evidence of this fact, not a week has passed since the bombing of Pearl Harbor that our mails have not brought mounting proof of the value of these studies both to Government agencies and agriculturists whose efforts now are being hurriedly directed toward lessening America's dependence upon enemy-controlled sources of raw materials and essential oils. Read these passages from a few typical letters recently received; this one is from a Mexican correspondent: *". . . I hope to receive soon your comments on the oil of bitter orange that I sent you and also your advice in regard to equipment (machinery and equipment) that we talked about during your visit. . . ."* This is from Guatemala: *". . . Would you be kind enough to send me any information that you may have available regarding the cultivation of this plant (patchouly). . . ."* From Haiti come these: *". . . Thank you for all the advice on this subject, especially for your warning about cananga . . .",* and another: *". . . Will you please tell me whether or not strong mountain winds over the course of one month a year would interfere with the growth of ylang ylang? . . ."* And from the Dominican Republic, a U. S. Government official writes: *". . . Concerning the propagation of star anise in this hemisphere . . . if you could send me an extract of the articles which you have on the exact methods employed by the native growers in French Indo-China for this crop, it would surely be appreciated. . . ."* These and many others—as, for example, that from the Division of Agricultural Cooperation: *". . . The U. S. Department of Agriculture has suggested that you might have some published material available relative to these plants. I would indeed be very grateful for any literature or information with which you could provide us on this subject. . . ."* — bring abundant proof of the value of this work now that we are at war and in urgent need of replacing many of the materials no longer available through the usual channels.

It took us seventeen years to gather and compile this material, but now, when most needed, it's available to those who can use it, at a moment's notice.

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FACTORIES AT CLIFTON, N. J. AND SEILLANS (VAR) FRANCE

"....THE LADIES WANT THEIR WAR PAINT...."

IN this column several months ago, we commented upon the importance of our industry as a factor in maintaining civilian morale. We suggested, in furtherance of this, that the industry's best contribution to the war effort would seem to be to continue functioning to the limits of its capacity. Editors and other advertisers have emphasized this same point of view time and time again. Now, from the womenfolk of the country, comes confirmation of what we in the industry have contended right along. In a survey just completed by PRINTERS' INK to determine women's attitudes toward possible product shortages in non-durable consumer goods, *four* of the *first five* items chosen as least dispensable were cosmetic-toilet preparations, — specifically: face powders, lipsticks, deodorants and face creams. Sheer stockings, fourth in order of preference, was the first non-cosmetic product mentioned.

In summarizing its timely and significant survey, PRINTERS' INK has this to say:

"All in all, the results add up to a rather astonishing testimony as to the wartime importance of the cosmetic industry. Some of the copy on 'maintaining your morale' which certain lipstick and powder advertisers have been putting out has seemed a trifle gamy. Apparently, however, war or no war, the ladies want their war paint and they want it bad."

Coming from outside the industry as this does, what more welcome or encouraging boost could the cosmetic-toilet goods industry ask for than this unqualified support from their fair patrons! It bears out the experience of British authorities who, earlier in the war, were inclined to regard cosmetics as non-essentials, but were forced by weight of feminine opinion to reconsider.

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A TYPICAL EXAMPLE...

The important link between our essential oil field studies and the critical scarcities resulting from the war is well illustrated by the case of LEMONGRASS. This oil, in addition to its many technical applications, is the starting material for the isolation of citral. From this latter chemical come the ionones, a group of aromatics widely used in perfumes, cosmetics and particularly soaps. Citral itself produces a concentrated lemon oil effect which is useful in soft drinks and now, particularly, in concentrated foods for army field rations.

The two largest sources of lemongrass imports—Southern India and Madagascar—are increasingly handicapped by lack of transport and the threatening spread of hostilities. Lemongrass, however, given proper conditions, grows readily in the Western Hemisphere. It has been successfully cultivated in Central America, Brazil, the West Indies, and lately in Florida. The prospect for much greater production is favorable as plant material is fairly abundant and the plant is not too sensitive to drought or other inclemencies. As a practical undertaking, however, oil yield is a first consideration and this hinges upon a complete knowledge of conditions under which maximum yield can be obtained. In this connection, Fritzsche Brothers' surveys supply indispensable data, collected first-hand in India and Madagascar by the Company's own representative. Quotation of but a few of the passages from an article which appeared in SOAP on "Oil of Lemongrass", written by our Chief of Research, Dr. Ernest Guenther, proves the importance of this work to those investigators—Government or private—now concerned with lemongrass production for the Western world:

". . two main types are marketed commercially: (1) The so-called 'East Indian' lemongrass oil . . . distilled from Cymbopogon flexuosus *Stapf* (Andropogon nardus *var.* flexuosus *Hack). . . .* (2) *The so-called 'West Indian' lemongrass . . . distilled from* Cymbopogon citratus *Stapf* (Andropogon nardus *var.* ceriferus *Hack). . . . The main difference between these is the inferior solubility of the latter in 70% alcohol. This is caused, especially in older oils, by the presence of polymerized myrcene. In regard to odor, the difference lies in a more pronounced methyl heptenone note characteristic of the 'West Indian' oil . . ."*

•

". . Toward the end of April . . . grass grows quickly but is not yet ready for cutting because of inferior yield of oil and abnormally low content of citral . . . Around the end of May . . . grass matures and may be cut . . . Planting may be cut every 35 or 45 days . . ."

•

". . .Plantations last on an average from six to eight years . . . yield of oil is small during first year, it increases with the second and is highest during the third and fourth years after which it declines progressively . . ."

•

". . Lemongrass grows best on well-drained, sandy-loamy soil, also in light sand. In fact, in sandy soil, the relative yield of oil and content of citral are higher than in the heavier loamy soil . . ."

•

". . .other factors . . . greatly influence yield and quality of oil of lemongrass . . . Altitude and climate . . . warm . . . plenty of sunshine and sufficient but not too much moisture . . . Soil conditions: Dark, heavy, rich and fertile soil gives a higher yield of grass but the oil is usually of lower citral content . . . The season of cutting . . . the age of the planting . . ."

•

". . .Distillation is carried out in numerous crude field stills . . . usually six feet high, three feet wide and holding about 100 to 200 gallons of water . . . Distillation of one charge lasts about three hours . . . yielding on an average about one-half bottle of oil . . ."

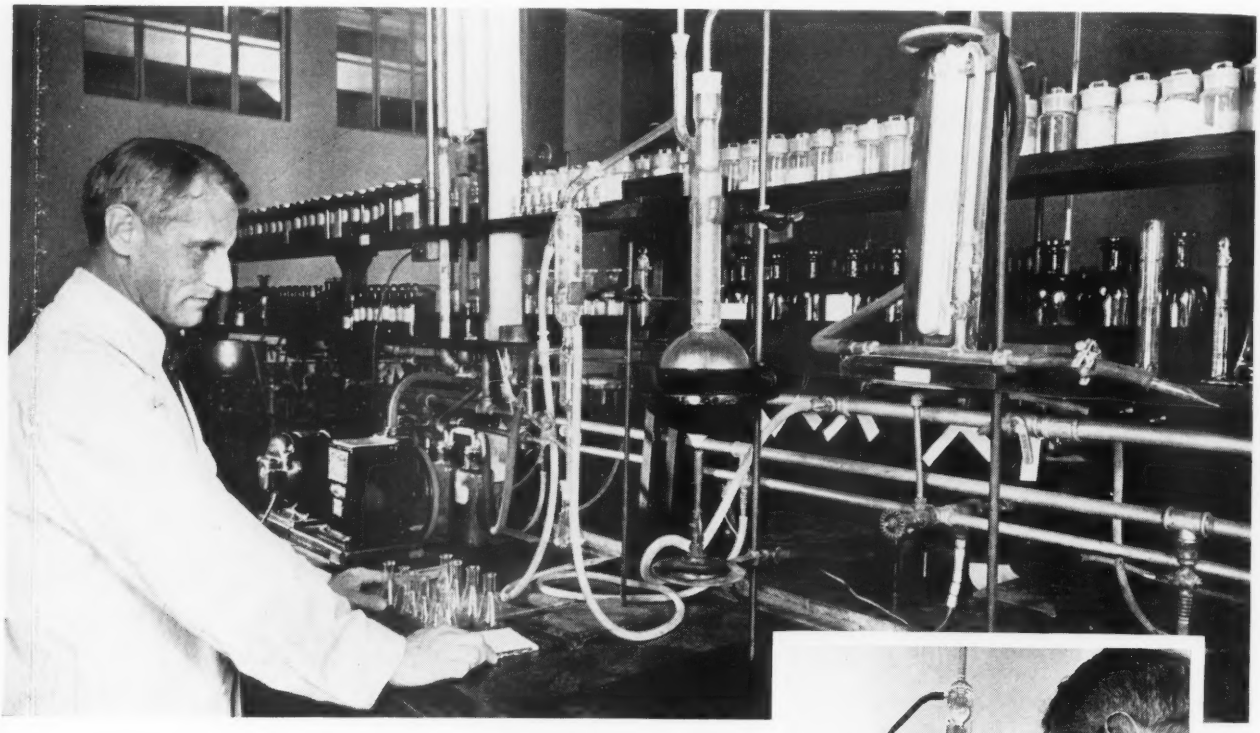
•

". . .A planting should last at least four years . . . properly cared for the life span may be nine years . . . Lemongrass is quite a soil exhausting plant and, therefore, requires potassium and phosphate fertilizers . . ."

Etc., etc.

BACKGROUND VALUES . . . a PART of the product, APART fro

ADULTERATION is the enemy against which both supplier and user of essential oils must guard. And their most effective protection is to buy from reliable, fair-dealing sources. In inaugurating our studies of foreign centers of production, one of our major purposes was to obtain *true* samples of essential oils made under the personal supervision of our own representative and known, therefore, to be absolutely pure. With these samples to guide us, we were in a position to set up our own exact standards for the finest essential oils. Today, even the most skilled adulteration by foreign agents, native middle men or distillers, could not elude the scrutiny of our vigilant quality control specialists.



One of the most important aids in this work of checking essential oil quality is the fractional vacuum distillation set-up above. By this process a questionable oil is broken down into its various fractions, thus enabling the operator to examine carefully that fraction in which the adulterant is suspected. This same process permits exact identification of all constituents of an essential oil.

The Soxhlet unit, shown at the right, is a simple extraction apparatus used in U.S.P. tests and for special research work.

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PEPPERMINT OIL

The consumption of steam for the distillation of fresh peppermint leaves is seven times greater than that for dried leaves. The dried ground leaves yield 42.4%, the dried leaves 89.4%, the air-dried peppermint 80.7% and the fresh peppermint 71.7% of the total amount of oil. The yield of oil from fresh peppermint is 1.20% of the dry plant. The best oil is obtained from fresh and from air-dried peppermint.

PERFUME INGREDIENT

A material of lily-of-the-valley odor is formed of hydroxy-citronellal mixed with about 25% or more of hydroxy-citronellol to effect stabilization against air oxidation. *U. S. Patent 2,265,437.*

AGING PERFUME

To hasten the aging of perfume, the alcohol, water, or their mixture used in the preparation of the perfume is passed through a filter-like surface coated with an oligodynamic metal such as silver. *German Patent 680,285.*

KETONIC PERFUMES

In a series of experiments with undecalactone and undecylenic acid, the best method for obtaining hexylcyclopentenone consisted in heating with 98% phosphoric acid under diminished pressure, followed by two fractional distillations. Applying the same procedure to hydroxypelargonic acid and nonylenic acid gives butylcyclopentenone, with a jasmone-like odor.

KAWAKAWA OIL

The dark essential oil obtained by steam distillation of the leaves and terminal branchlets of Macropiper-excelsum was separated by vacuum distillation into four fractions. The first was probably an unsaturated substituted tertiary nonyl alcohol; the second and third probably consisted of sesquiterpenes. The fourth is the main fraction and consists almost entirely of myristicin.

PLANT GROWTH SUBSTANCES

It has been discovered that the acid amides derived from phenyl, naphthyl or indole are particularly effective, when employed together with an inert diluent in liquid or solid form, as stimulants of plant growth. Naphthyl acetamide is more active in producing formation of fruits, in initiating rooting, and in inhibiting bud formation than most of the previously known plant hormones. Moreover, it produces no appreciable amount of leaf-curling or stem-bending. *Brit. Pat. 540,485.*

NORFOLK ISLAND PINE OIL

Steam distillation of the terminal branchlets of Araucaria excelsa gives 0.13% of a light yellow volatile oil with a yellowish green fluorescence. Fractionation of the oil gives about 70% of d-alpha pinene, about 19% of phyllocladene, about 9% of an unidentified sesquiterpene and a small proportion of dipentene, probably formed from the pinene during the distillation.

VITAMIN MINERAL OIL

The Upjohn Company is now offering a heavy white U. S. P. Mineral Oil containing 5,000 U.S.P. units of vitamin A per fluid ounce. The addition of this vitamin A adequately compensates for the carotene removed from the body by the preferential solvent action of mineral oil.

REPLACING IODINE

To save iodine in Germany, tincture of iodine is being replaced in many cases by a 5 per cent. solution in alcohol of chlorated alkylated phenols in conjunction with quarternary ammonia salts.

VITAMIN BREAD

Canada has adopted regulations which stipulate that the use of synthetic vitamins in the manufacture of flour or bread for sale for consumption in that country is expressly an adulteration of food. The new Order-in-Council under this heading prescribes standards for flour and bread containing a high proportion of vitamin B complex naturally occurring in the original wheat. Except for such flour or bread, it is stated, labels or descriptions using the word "vitamin" or any other word, symbol, or device suggestive of any vitamin shall not be used as a part of the name or in immediate conjunction with the name.

LOCAL ANESTHETICS

Therapeutic compounds inducing local anesthesia are prepared by treating an alkylhydroxybenzoyl halide with an amino aliphatic alcohol or by treating an alkali metal salt of an alkylhydroxybenzoic acid with an amino aliphatic halide. The resulting amine esters are generally recovered in the form of their addition salts with hydrochloric acid; but other acids forming addition salts with amines may be used, such as boric, nitric, lactic, tartaric, citric, phosphoric, sulfuric, picric and picrolonic acids. The addition salts may be converted into the corresponding free bases in the usual manner. *U. S. Patent 2,243,694.*

CLOTTING GLOBULIN

New protection for hemophiliacs against danger of excessive bleeding and effective help for physicians, surgeons, and dentists in staunching the flow of blood from small wounds is provided by a new, powerful agent for clotting blood announced by Lederle Laboratories, Inc.

The new material, clotting globulin, is the natural clotting constituent of blood separated in highly concentrated form from clear blood plasma.

Clotting globulin possesses true thrombic activity in coagulating the fibrinogen of the blood. It acts by supplementing the prothrombin naturally present. Clotting globulin can only be used locally and under the supervision of a doctor or dentist. Its effect is solely to coagulate the blood at the point of application, and it does not remove danger of excessive bleeding from other wounds.

GUANIDINE HYDROCHLORIDE

On the basis of the results that Dodd and her associates obtained with guanidine hydrochloride in 6 patients with myasthenia gravis and those obtained in 21 cases by other workers the authors conclude that the drug causes temporary improvement in muscular function in most patients with the disease. These patients have an increased tolerance to guanidine. Prolonged medication produces sustained improvement without harmful effects. Generally less of the drug is required after several months of adequate individual medication. Guanidine, unlike prostigmine, does not inhibit the activity of choline esterase. It may play a fundamental part in restoring irritability to cells. *Amer. J. Med. Sci. vol. 202, p. 702.*

HEMOSTATIC

A beneficial by-product of the war, a spray which stops bleeding in a few seconds, was described at the convention of the American College of Physicians.

The spray is made from two proteins, fibrinogen and prothrombin. The first is transformed by the blood into fibrin, which forms the blood clot. The second, acting upon the blood, helps initiate clot formation.

Dr. Edwin J. Cohn, professor of biological chemistry at Harvard University, and both proteins were isolated in laboratory work on albumin during a search for a substitute for blood plasma to be used in transfusions for wounded soldiers.

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ADVANCING THERAPY

ELECTRONIC DRUGS

Electron medicines, probable "miracle drugs" of the near future were described to the American College of Physicians by a group of physicians from the University of California, home of the giant cyclotron which makes the new remedies.

The therapeutic effects come mostly from electrons which the substances emit. Some do what no medicine ever did before: go directly to the sick part of the body and nowhere else.

Most remarkable is radio-iodine, used on four cases of toxic goiter. The four patients are recovered and the goiters are gone, along with their poisonous by-products. All these patients had to do was to take a few drinks of a slightly salty, pleasant-tasting liquid—water containing a little of the new iodine.

Two other electron-ray remedies are doing remarkable things. One, radio-phosphorus, gathers mostly in bone marrow. Marrow produces blood corpuscles. One teaspoon of radio-phosphorus stops for months, some times, a disease known as polycythemia, which is excess of red cells. This disease may be fatal because the excess red cells form clots.

The other remedy is radio-strontium. This substance prefers to settle in the hard outer portion of bones, instead of in the marrow. Therefore it is being used on a type of bone cancer, multiple myeloma, which affects only the hard outer part of bone.

COLD CURE

After seven years of research, a group of scientists has guardedly expressed the belief that they have developed a specific remedy for the common cold.

The answer, they believe, is a new substance, pro-vitamin A, factor 3, extracted from carotene. The patient does not swallow it, or have it injected. It is rubbed on the skin.

The material was developed by the Llewellyn Biological Institute of West Los Angeles, of which Dr. R. L. Cunningham is director. Already it has been tried on 150 patients with what he describes as effective results.

The best method is to massage about fifteen drops into the skin of each inner thigh, or thirty drops on the abdomen. Of the 150 patients in the early stages of colds, said Dr. Cunningham, 109 recovered quickly. Marked improvement was noted in twenty-three cases, while in only eighteen instances did improvement fail to come.

POISON IVY TREATMENT

The itching of poison ivy dermatitis and insect bites is promptly relieved by the application of finely powdered benzoyl persulfide, according to Drs. S. Amberg and L. A. Brunsting, of the Mayo Clinic. The chemical has no bacteriostatic action and is intended for no other purpose than to relieve the itching.

Benzoyl persulfide is prepared as follows:

Two hundred cc. of a 10 per cent. solution of potassium hydroxide in absolute alcohol is saturated with dry hydrogen sulfide while cooling. To this solution, 25 cc. of benzoyl chloride are added slowly with much shaking, and the mixture is kept cool. The mixture is allowed to stand several hours, at the end of which time the precipitate that has formed is filtered off. A saturated solution of iodine in absolute alcohol is added to the acid filtrate, at first rapidly, then slowly, until a persistent yellowish color indicates an excess of iodine (approximately 95 cc. of iodine solution is used). The persulfide is collected on a filter, washed with absolute and diluted alcohol, and finally with water. It is then dried in the air and can be used without further purification. If desired, the chemical can be purified by successive recrystallization from a hot alcohol or hot acetone solution. The iodine, used as an oxidizing agent in the preparation, can be recovered.

Crystals of benzoyl persulfide are white and are insoluble in water. They are 30 per cent. soluble in ichthyol. The chemical is used in the form of a fine powder which is applied to the sites by gentle rubbing; therefore, it must be free from grit. The powder may develop a pink color on standing, apparently without destroying its effectiveness.

When applied to cases of dermatitis produced by poison ivy the itching was intensified for a few minutes and then ceased entirely and did not recur for a period of 4 to 6 hours, permitting normal work or sleep. It has proved effective in cases where lotions and wet dressings have failed to give relief.

Usually but one application of the powder is sufficient to relieve the itching of mosquito and sand flea bites.

The powder was used in other cases of pruritus such as that of neurodermite, lichen planus, dermatitis herpetiformis, atopic dermatitis, and pruritus of the vulva and anus with little or no relief. Applied to the vulva and anus the powder was irritating. *Military Surgeon vol 8, 88, p. 617-621.*

NEW SULFANILAMIDE DERIVATIVE

Mutch used sulfonamide ethyl-alpha-sulfonate for the treatment of 130 patients with various acute infections. The new drug is freely soluble in water, it is almost tasteless and infants and

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patients in coma or those who are vomiting or have diarrhea can be easily treated by giving the drug by mouth, nasal tube, rectal tube or intravenous drip. General malaise was slight, and palor, nausea and vomiting never occurred. Cyanosis was common, but it never caused distress or required the discontinuance of therapy. Routine blood counts were made, but granulocytopenia or simple leukopenia was not encountered. Minor degrees of anemia were observed, but not with greater frequency or severity than is usual after a severe infective illness. A simple erythematous rash developed in a child after a week of treatment. The rash might possibly have been prevented by a freer use of alkalis. In general there were no serious complications, and the usual symptoms which distress without endangering the patient when sulfapyridine is used were absent. As the expected recovery rate in the disorders treated is reasonably high even with nonspecific therapy a datum line from which to judge the success of the new drug is difficult, and therefore the author stresses the results obtained in 34 cases of acute epidemic cerebrospinal meningitis. Three of the patients died, but there were no deaths among those who were seen during the first week of illness and who remained free of serious secondary infections of the viscera. The temperature of some patients was normal after thirty-six hours of treatment. The recovery of some patients was complete in as little as two and a half weeks. *Brit. Med. J. vol. 2, p. 503, 1941.*

SODIUM SALICYLATE SOLUTIONS

Concentrated solutions of sodium salicylate darken on standing probably due to auto-oxidation. The oxidation products differ from those obtained by the exposure of bicarbonated solutions to atmospheric oxygen.

Care should be taken to exclude carbon-dioxide and ammonia from the solution. Their presence influences the rate of darkening.

For oral administration 50 per cent. solutions of sodium salicylate should be prepared by dissolving the sodium salicylate—stored in well-filled glass-stoppered containers protected from light—in previously boiled and cooled distilled water and adding a sufficient quantity of potassium pyrosulphite to obtain a concentration of 1 in 500. Such solutions when prepared under normal dispensing conditions (wishout excess of ammonia in the air) will remain colorless for more than 6 weeks even when stored under adverse conditions. *H. W. Tomski, Pharm. J. Jan. 24, 1942, p. 32.*

ENTERIC COATINGS

Partly esterified or etherified cellulose is treated with dicarboxylic anhydrides. When used as a coating for tablets, etc., the products dissolve only in the intestine. Cellulose acetate phthalate containing 9-15% of free acid groups is specifically claimed. *Kodak, Ltd. Brit. pat. 526,276.*

EPHEDRINE SOLUBILITY

Water content has a marked effect on the degree of solubility of ephedrine. The U. S. P. permits use of hemihydrate or anhydrous. Using hemihydrate the average solubility at 20° C. was found to be 0.84 Gm. of anhydrous ephedrine to 100 cc. of solution; using anhydrous ephedrine the solubility at 20° C. was found to average 2.235 Gm. to 100 cc. of solution. Light liquid petrolatum was used. When hemihydrate and light liquid petrolatum were used the average solubility at 25° C. was 1.242 Gm. of anhydrous ephedrine to 100 cc. of solution; using the anhydrous ephedrine, average solubility was 3.133 Gm. to 100 cc. of solution. Using heavy liquid petrolatum, the average solubilities were reduced to 1.11 Gm. with hemihydrate and 2.873 Gm. with anhydrous. The difference in degree of solubility between 20° and 25° is noteworthy. It was observed also that anhydrous ephedrine melts at about 34° C. but the hemihydrate melts at about 40° C.

ZINC PEROXIDE PREPARATIONS

For medicinal purposes zinc peroxide should conform to the B.P. standards for zinc oxide in regard to metallic zinc and foreign elements; the arsenic limit of 10 parts per million is the most important, and is safe enough. The compound used contained 38 to 40 per cent. of ZnO_2, and in all the formulas given the proportions of peroxide are calculated in terms of the absolute salt. Zinc peroxide is stable over a long period, but its stability in the presence of hydrocarbons of the paraffin type, vegetable oils and ions must also be considered.

Ointments can be made with a wide range of strengths, but 2 to 10 per cent. are suitable for application, and those made with yellow or white petrolatums are relatively stable. There is no deterioration within six days, and hardly any loss over several weeks. The petrolatum is sterilized at 150° C. in a hot-air oven, and cooled to normal temperature. It is remelted at a temperature not exceeding 50° C., and the peroxide incorporated by sifting through sterile muslin under aseptic conditions. The product should be stored in sterile containers.

Water and saline solutions are unsuitable vehicles for suspensions, but stable suspensions can be made with either vegetable oils or liquid paraffin. A suspending agent is necessary to avoid flocculation. Glyceryl monostearate gives satisfactory results, and peanut oil is a suitable vehicle. The following formula was used:

Zinc peroxide.....	10 Gm.
Glyceryl monostearate.....	3 Gm.
Peanut oil to make.....	100 Gm.

The oil is heated at 150° C. in a hot-air oven and cooled to normal temperature. The glyceryl monostearate is added and the mixture heated to 130° C. for 1 hour. After cooling to normal temperature the peroxide is incorporated with the mixture in a sterile mortar by sifting through sterile muslin under aseptic conditions. The suspension is stored in sterile glass-stoppered bottles capped with sterile parchment paper.

This suspension was relatively stable, and lost only approximately 10 per cent. of ZnO_2 after four months. The preparation is easy to handle, and is as effective therapeutically as an aqueous suspension or a paraffin ointment; it has the advantages of remaining physically stable in contact with tissues, and no evidence of local or systematic toxicity has as yet been found. Stronger suspensions can be made over a wide range of strengths up to 25 per cent., but their greater viscosity restricts their use. Liquid paraffin was also tried as a vehicle, but when this is used the addition of 3 per cent. of anhydrous wool fat is necessary for stabilizing the suspension. There is nothing to choose between the two vehicles with reference to stability, and the facility with which they can be used. Other ingredients can be incorporated if chemically compatible. *C. Hoyle, J. W. Spence, and S. H. Faulkener, Lancet, Jan. 3, 1942.*

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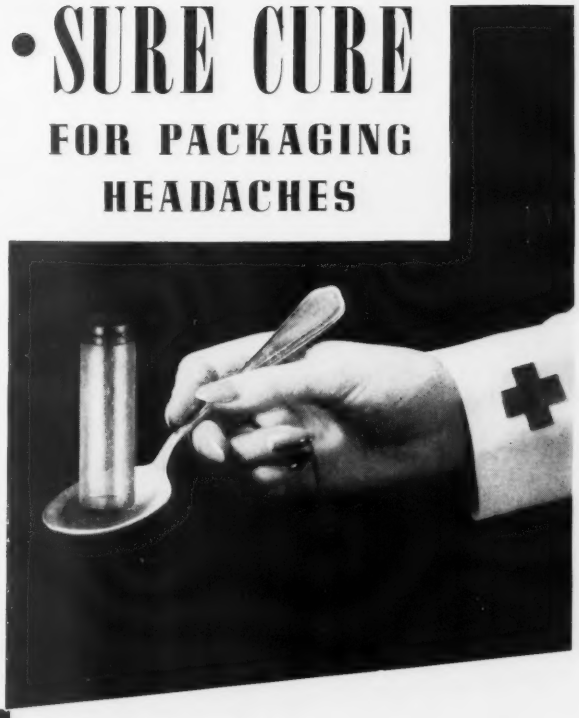

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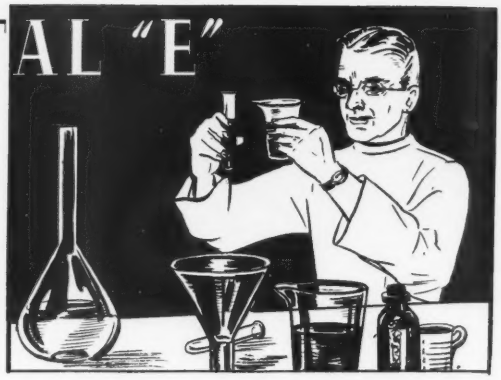

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READERS' QUESTIONS

IRRITATING COLD CREAM: I manufacture a cold cream consisting of beeswax, paraffin, mineral oil, water and borax. The cream is excellent, but when applied to the skin it produces a burning sensation. Will you please advise what causes this and how the condition can be corrected? Tampa.

Assuming that you are using pure ingredients of cosmetic grade, there is absolutely nothing in this formula as you give it that can possibly be irritating under ordinary conditions. However, you do omit mention of the one constituent that is quite likely to be responsible for irritation, namely, perfume.

Many improper perfume oils are known to be responsible for irritation; if you are dealing with a good perfume supplier, he usually has several mixtures of about the same odor but intended for different purposes. The mixture for use in creams or other preparations to be applied to the skin, is formulated with the idea of omitting all ingredients that could possibly be irritating. This care is obviously not necessary in perfume mixtures that are not applied directly to the skin, and you may be using the wrong grade. Of course, even with safe perfume there will be some sensitive skins that show allergic reactions to the perfume, so that before a perfume is condemned it must be tried on several people.

PEARLY HAND LOTION: We are interested in developing a process for manufacturing an extremely pearly hand lotion, using the conventional Stearic Acid—KOH formula. How can pearliness be developed in such a lotion without the long and tedious aging process? Is there a way of making Stearic Acid crystallize without aging? Dallas.

The development of pearliness always takes time, but there are certain stunts that are useful in shortening the time and improving the quality of the luster developed. A small amount of alcohol, about 5%, promotes the development of crystallization as do some of the glycol derivatives. This solution is not as good as it might be because of the priority situation with these materials. The use of stearic acid containing a small amount of oleic acid also promotes and improves pearliness. This oleic acid may be added as such to pure stearic acid or double pressed stearic acid may be used in place of the triple pressed grade. Finally, the presence of Amino Glycol in place of potassium hydroxide has considerable effect in improving the pearliness developed without causing discoloration. Storage of the finished lotion in a warm place also promotes crystallization.

POWDER BASE: Will you please publish a formula for a solid powder base in your Readers' Question Department? Chicago.

Solid powder bases in stick or cake form usually consist of proper pigments dispersed in a cake-forming mass such as petrolatum and paraffin or cocoa butter. In the latter instance, cocoa butter is melted and ground with the proper pigments consisting of zinc oxide or titanium dioxide and coloring materials. Naturally, a completely deodorized grade of cocoa butter must be used. Using petrolatum as the major ingredient in a base, paraffin and mineral oil must be included in the formula to harden the product and to give it the proper rubbing out qualities. In both cases, it is advisable to grind the pigments with the base to make sure that the preparation is very smooth and then pour into molds.

DANDRUFF SOLVENT: Will you please send me a working formula for a dandruff solvent, with the following: boric acid, chamomile, glycerin, tragacanth, and wintergreen water? Milwaukee.

We can give you no assurance that your mixture will have any effect whatever on dandruff, but a liquid preparation containing your ingredients can be made in the following way. Mix one part of tragacanth with 10 parts of glycerin, dissolve three parts of boric acid in 81 parts of water, using heat if necessary. Pour the glycerin suspension into the boric acid solution with stirring, and then stir in five parts of chamomile extract.

PROTECTIVE CREAM: For obvious reasons, we have recently employed several women for the first time in our plant, doing various types of light machine work. They have proven to be wholly satisfactory, and a few have even introduced an in-

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noration, that we should like to introduce to our other employees. Before starting the day's work, they rub a white cream into their hands until it disappears. Before lunch and at the end of the day, they wash their hands in ordinary soap and water and the accumulation of oil and dirt is easily removed, apparently leaving the hands soft and in good condition. Use of this cream also seems to prevent the appearance of rashes that occasionally affect the workmen. Can you tell us what this cream is and how it can be made? Newark.

The product whose use you describe is a skin protective cream, designed to prevent penetration of oil and grease into the skin. Basically it is a vanishing type cream containing a so-called barrier material. The cream and the barrier when rubbed out onto the skin surface leave an invisible, adherent film; oil and grease penetrating part way into the film are stopped by the barrier before they can enter the pores and other openings in the skin. When the hands are washed, preferably but not necessarily with soap, the film and the accompanying grime are dissolved away to leave the skin surface in its original condition. The basic vanishing cream is the usual formula consisting of stearic acid, potassium hydroxide, glycerin and water. Proportions are modified to give a mixture that is much softer than usual, since the barrier material has the property of making the preparation harder. The barrier should be a relatively inert compound of a laminar structure that permits it to form a uniform coating in which the individual particles overlap; magnesium stearate or talc are most commonly utilized. For the actual manufacture, melt 12 parts of stearic acid at about 65° C. Heat to the same temperature a mixture of 3 parts of glycerin, 1.5 parts of potassium hydroxide, in 66.5 parts of water and thoroughly mix with the stearic acid. Stir until completely emulsified and allow to stand overnight. Then stir the mass until it is completely smooth and mill with 15 parts of magnesium stearate. The result should be a smooth white cream that easily rubs into the skin and may easily be washed off along with accompanying grease and oil.

CLOUDY LOTION: We make a skin toning lotion that is giving quite a bit of trouble, since it becomes cloudy during manufacture and again becomes cloudy even after thorough filtration. We would appreciate any suggestion you may care to offer that will lead to the clear sparkling solution we wish to obtain. Chicago.

Your solution, consisting of alcohol, water, and perfume, will ordinarily be perfectly clear if you use a perfume sufficiently soluble in the alcohol dilution called for in your formula, and filter under proper conditions. Assuming the proper perfume mixture, this is dissolved in the alcohol and the solution then mixed with distilled water. Keep the mixture cold (below 50° F.) for several days, mix with talc or some other filter aid, and then carefully filter the cold solution. Even with perfectly soluble perfumes, it is extremely difficult to obtain sparkling solutions without extremely good filtration and the use of distilled water.

Another difficulty is possible in your case. We have come across several instances in which the wrong type of specially denatured alcohol was used. Those formulas containing a relatively high proportion of diethyl phthalate or other water-insoluble denaturant will become cloudy when diluted with water. If you find that the alcohol you are now using itself develops turbidity when diluted with water, change to another specially denatured formula containing only water-soluble ingredients.

COSMETIC STOCKINGS: Can you give us any information concerning make-up preparations intended for use on the legs to simulate the appearance of stockings? Boston.

We can expect, with the continuance of the war, that silk stockings and stockings made of other materials similar to silk will eventually become quite scarce, so that cosmetic stockings or leg coverings will become increasingly popular. As was outlined in an article on the subject written some months ago, leg make-up must imitate, as much as possible, the appearance of silk stockings. The first requirement, and the easiest, is color. The proper luster is less difficult to obtain than would be thought at first. All that is needed is the provision that the natural luster of the skin will not be completely hidden. Finally, the preparation should not leave a deposit that is easily rubbed off. Because of this last requirement, powder mixtures merely suspended in water are not likely to be satisfactory. Simple dye solutions lack covering power and are too difficult to remove from the skin and are therefore not the full answer to the problem, although they should enjoy some demand. Cosmetic stockings should consist of pigments of the correct color, of relatively low covering power, suspended in a liquid that also contains a gum or other material to assure continued adhesion. Moderately quick drying is also a desirable property. A good medium to act as an experimental basis is probably a quite dilute solution of methyl cellulose. A solution of methyl cellulose is made up in the usual way in water. The finely ground pigment mixture is thoroughly mixed and milled if necessary with the gum solution. Finally add a small amount of glycerin and enough alcohol to increase the rate of drying. About one-half of one per cent. of methyl cellulose, or even less, should be sufficient to form a film and thus make the pigment adhere. One per cent. of glycerin should be enough to confer adequate flexibility on the film, and about 10 per cent. of alcohol will speed up the drying time sufficiently.

LIQUEFYING CLEANSING CREAM: How can I make a quick-melting liquefying cleansing cream? Brooklyn.

Many manufacturers no longer make their own liquefying cleansing creams, since they find they can more economically purchase it in bulk from producers of cosmetic mineral oil. In some instances, however, it may be desirable for the manufacturer to have his own mixture. Liquefying cleansing creams consist of mineral oil of moderate or low viscosity solidified with a mixture of petrolatum and waxes. Paraffin is used extensively for the purpose, but the resulting product is more translucent than is generally considered desirable, and is also quite likely to bleed oil on standing, especially at slightly elevated temperatures. The addition of ozokerite is outstandingly valuable. A surprisingly small proportion of this wax will make a white, opaque product that holds its oil quite tenaciously. A certain amount of petrolatum is often included in the formula to improve oil-holding power, but an excess must be avoided or else the product will be too sticky when applied to the skin. Some of the newer amorphous waxes derived from petrolatum may also be useful in holding oil and are not as likely to give salve-like preparations. As little as one-half of one per cent. of carnauba wax is said to be useful in preventing bleeding. The usefulness of emollient additions is often overlooked in liquefying cleansing creams. Small amounts of lanolin, cocoa butter, cetyl alcohol, etc. will be beneficial to the skin; excess must be avoided to prevent stickiness.

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Bourbon $3
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Iceland moss 35c
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Lavender spike oil 75c
Lemon grass oil 60c
Lime oil, dist. 50c
Linalool $2.25
Menthol natural $1
Nutmeg oil 25c
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Patchouli oil 50c
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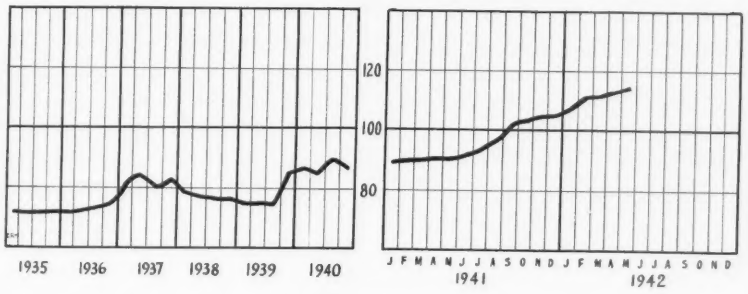
Pine needle oil 65c
Plantago seed blond 1c
Rhubarb root HD 30c
Rosemary oil 75c
Sandalwood oil 40c
Sassafras oil 25c
Spearmint oil 5c
Wormseed oil 10c

Down

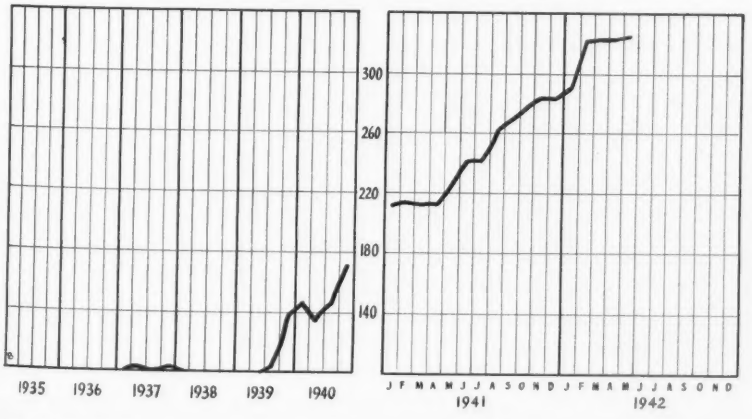
Chamomile flowers, Hung. 2c
Saffron Valencia $1
Senega root 10c

25 Cosmetic Raw Materials—Unweighted Price Index. 1926=100.



The cosmetic raw materials index advanced to 114.6 from the previous 113.0. Balsam Copaiba rose to 53 cents from the previous 40 cent level; Balsam Peru rose 5 cents to $1.50; and menthol rose to $14.50. The balsams are obtained in South America. The shipping situation is responsible for the advances in these items rather than any primary market shortage.

15 Botanicals—Weighted Price Index. 1926=100.



The botanicals index advanced to 325.0 from the previous 322.0. Ipecac was up 35 cents a pound to $1.90; nux vomica advanced 3 cents a pound to 11 cents; and rhubarb rose 30 cents a pound to a new high of $1.25. Although experimental work is being done in many parts of the country toward the growing of scarce items here, not a great deal of actual progress can be reported as yet.

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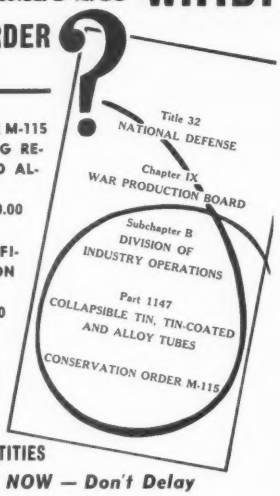

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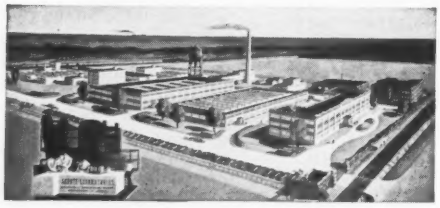

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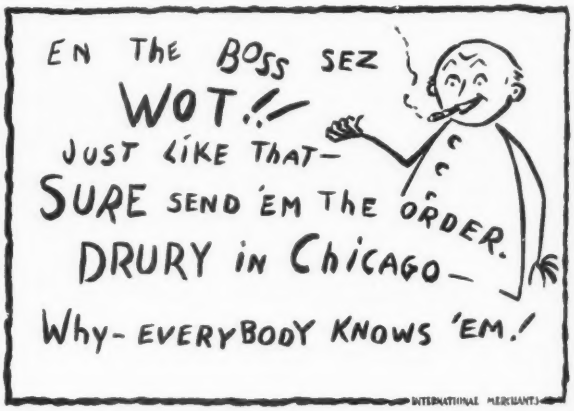

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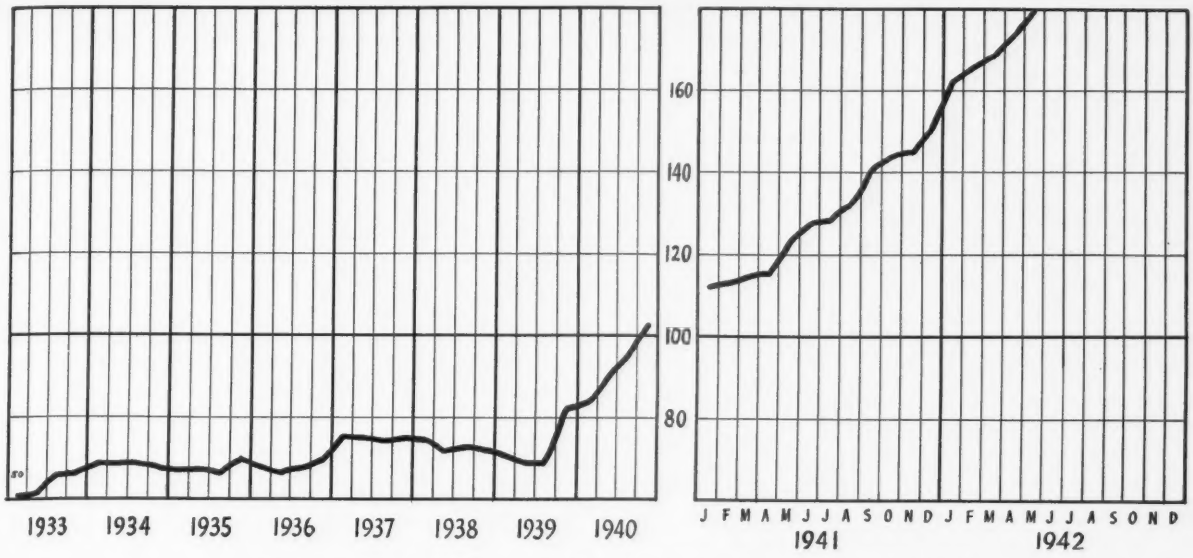
DRUG AND COSMETIC INDUSTRY
101 W. 31st Street **New York, N. Y.**

50 Raw M terials—Weighted Price Index. 1926=100.



The price index of fifty commodities for April, 1942, increased to 183.9 from the previous 173.8. Government regulation of prices was by far the most outstanding development of the month under review. Dealers in raw materials for the most part were marking time pending clarification of the many questions which must inevitably arise from so far-reaching adjustment of the economic order. The policy of waiting to see what would happen next extended also to manufacturing consumers whose problems under the new price ceilings were no less complicated than those of the suppliers of crude materials.

• Prices quoted in this section were current on the first of this month.

PRICES

The fixing of practically all prices at a ceiling based on the highest level attained in March will most likely affect a great change in the raw material situation with relation to those items used in the manufacture of drug and cosmetic products. Just how this will eventually work out in regard to materials exclusively imported is as yet difficult to say.

It is quite evident, however, that products that formerly came from the Far East, such as citronella Java, patchouli, vetivert, oil of cassia, oil of sassafras, safrol, Japanese eucalyptus and menthol—from territories under the control of the enemy—are now limited to entirely nominal prices for local spot stocks. Probably a few people, either speculatively inclined or having unusual foresight, may have certain lots on hand, which they will gradually release.

There is, however, another category of products, namely essential oils produced in countries allied with, or friendly to the United States, and sent here in large quantities. The prices of these have spiralled upward in extraordinary fashion during the last few months, and particularly the last few weeks. The cause for this has not been an inability to buy these products, but rather an inability to obtain prompt deliveries, as shipping has been curtailed and somewhat disrupted by the danger of submarine attacks and sinkings.

These products include particularly bois de rose, which has now reached a price of $6 a pound in the spot market. This is most graphically illustrated when it is recalled that several years ago it was possible to import this item for 35c a pound.

Oil of lemongrass is another product which has risen sharply within the last few weeks, selling today at well about $4 a pound. This item is available at the source but shipping conditions between the United States and South American countries are precarious to say the least.

Advances in such items cause havoc in the market for aromatic derivatives and synthetic chemicals. For example, it takes from two to three pounds of oil of lemongrass to make one pound of ionone. Therefore an increase of $1.50 a pound in lemongrass oil would automatically result in an increase of from $3 to $4 a pound in the cost of the derivative.

Even products from Spain, which for some time had been offered at reasonable prices under existing circumstances, have lately spiraled upward. Spike oil is now almost prohibitive in price being hardly obtainable at below $10 a pound.

In the meantime a quiet tone prevails throughout the essential oil market. Because of conflicting reports and the lack of details concerning price ceilings both buyers and sellers are marking time. Dealers point out that import prices on a number of articles were higher in April than in March so that the lowering of spot prices back to March figures would mean an actual loss.

LIME OIL

High prices for lime oil are stimulating manufacture, and a substantial increase in production is promised for the 1942 season. With keen demand, prices have risen steadily. In July 1941 producers were receiving 6 pesos per 100 kilograms, but by March of the current

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year the price had risen to 30 pesos. Unless demand falls off, limes for shipment should continue in relatively good supply.

It is estimated that 1941 production of lime oil throughout Mexico amounted to about 110,000 pounds. Output in 1942 should run somewhat larger than this, as fruit from more distant places will be brought to plants throughout the season. In 1941 heavy demand and distant shipments did not develop until rather late in the season.

ALCOHOL

The program of substituting grain for molasses as the base for some industrial alcohol is going forward successfully, William L. Batt, director of materials, has announced. If arrangements made thus far can be carried out during the year, a saving of the equivalent of 550,000 tons of sugar will result, he said. A recently passed bill will remove existing barriers to redistillation of 140 proof alcohol from beverage distilleries into 190 proof in the Nation's large industrial distilleries and will provide added impetus to the conversion program

The change-over from molasses to grain has been difficult and will be carried on all during the year. In normal times the Nation's alcohol-making facilities are divided into two kinds —beverage distilleries which make whisky and other potables from corn and other grains, and industrial distilleries which make 190 proof alcohol from blackstrap molasses, a by-product of sugar manufacture. With the outbreak of war, the demand for 190 proof alcohol, used in the manufacture of smokeless powder and other munitions, increased more than 300 per cent. There was not enough blackstrap to fill the demand and high-test molasses, which would ordinarily go into sugar, had to be used in addition.

The Chemicals Branch, WPB, foresaw a possible shortage of sugar for alcohol and started last summer on a program for conversion of whisky distilleries into making 190 proof alcohol. At that time there were only a few plants in the country that could be utilized. Legal restrictions and lack of equipment barred the way.

The first step was to seek removal of legal barriers and on October 16, 1941, a bill was introduced in Congress to permit simultaneous production of industrial alcohol and beverage alcohol and also to allow these plants to operate seven days a week. This became law on January 24, 1942. WPB ordered all distilleries capable of producing 190 proof alcohol from grain to do so to the limit. While this has resulted in a great increase in grain alcohol output and has for the time being alleviated the situation, it is not a permanent solution.

The basic problem is a complex one of rejuggling existing facilities and working out transportation and storage problems, as it obviously is impossible under existing circumstances to build new plants requiring large amounts of copper, steel, and electrical equipment. Beverage distilleries generally fall into two classes and split about 50-50 as to output. The first class has facilities to produce 190 proof and these are now engaged in doing it. The others are smaller plants, larger in number but smaller in output, that are capable of producing only 120 to 140 proof and have no redistilling facilities. It is in this field that the problem of shifting equipment and facilities is complex. With passage of the new law, it will be possible to gather this low proof alcohol and ship it to industrial distilleries for conversion into 190 proof. By 1943 this program is expected to produce double or more the amounts of industrial alcohol it will turn out this year.

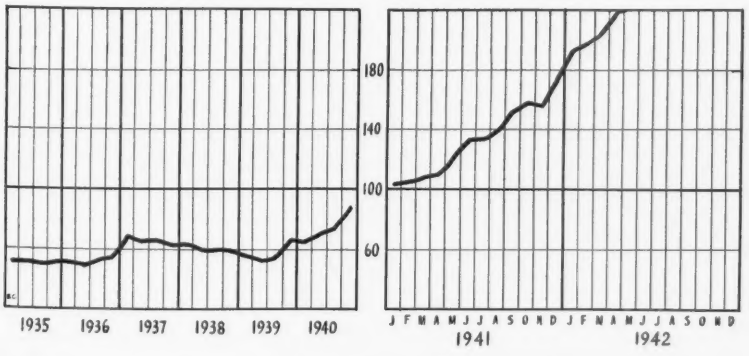
Meantime engineering changes are going on at strategically located plants to increase grain alcohol facilities. Some beverage distilleries require only a small amount of equipment to produce 190 proof alcohol. These are being supplied from old and idle plants and from others which have a surplus of certain types of apparatus.

An experimental project in cooperation with the American Sugar Cane League for the production of up to 10,000 acres of sorgo in the cane belt of Louisiana to produce molasses for conversion into industrial alcohol has been announced by the U. S. Department of Agriculture.

The use on a substantial scale of sorgo, or "sorghum molasses," in producing ethyl alcohol for war requirements would conserve sugar, which, in the form of high-test molasses, has constituted the principal raw material for that purpose. Since sorgo matures in approximately 129 days from the time of planting, it will be possible for the sugar mills in the area to complete the processing of the sorgo before their normal sugar cane grinding operations get under way.

It is hoped that the planting of 10,000 acres will yield approximately 4,200,000 gallons of standard density molasses, from which approximately 1,000,000 gallons of alcohol should be obtained. To encourage this production, the Commodity Credit Corporation has agreed to purchase the molasses at the mills at a price comprised of the following: $4.00 per ton to growers for sorgo delivered at the nearest hoist; $1.00 per ton for processing; and the actual cost of transportation, but not more than an average of $0.50 per ton. The molasses or sirup will be delivered to distillers for conversion into alcohol.

15 Essential Oils—Weighted Price Index. 1926=100.



The essential oil index increased to 247.9 from the previous 219.1. Bois de rose was higher at $5.75; cassia advanced sharply to $14.50; citronella was much higher at $2; clove oil increased 5 cents a pound to $1.75; geranium rose $5 a pound to $30; peppermint oil was higher at $6 a pound; rose oil advanced to $30; and sandalwood oil was up to $7 a pound.

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QUININE

The War Production Board has issued general preference order M-131 to conserve the supply and direct the distribution of quinine and its salts. This does not include cinchonine, cinchonidine, quinidine, their salts, and quinoidine.

All persons are forbidden to sell, transfer, deliver, purchase, or accept transfer or delivery of any quinine except: (1) As an anti-malarial agent; or, (2) As an ingredient of quinine and urea hydrochloride U. S. P. for hypodermic use.

All purchases, sales, transfers or deliveries of quinine, except to the ultimate consumer, are forbidden, except upon receipt of certificate manually signed by the person purchasing or accepting delivery (or a duly authorized official).

All persons having in their possession or control on April 4th more than 50 ounces of quinine (preparations with other medicinal agents excepted) or over 50 pounds of cinchona bark, must report on Form PD-401 to the War Production Board. Failure to so report shall be deemed a representation that the person did not have quinine stocks of more than 50 ounces or cinchona bark stocks of more than 50 pounds on the effective date. Additional reports may be required from time to time by the War Production Board.

Quinine stocks of 50 ounces or less in one location on April 4th are not subject to the provisions and instructions of the order.

DRUG SHRUBS

The House Agriculture Committee has concluded hearings on H. R. 4591, introduced by Rep. Andresen, Minn., which calls for an appropriation of $2,000,000 a year to encourage the growth in the United States of trees, plants and shrubs which produce commodities heretofore imported into this country.

Included would be many plants from which drugs, essential oils, spices and other commodities are obtained. The Andresen bill provides for encouragement of cultivation of the trees, plants and shrubs by federal and state experimental stations.

The Bureau of Plant Industry, Department of Agriculture, already is engaged on a program of encouraging American production of some imported plants. Testifying recently before a House Appropriations subcommittee, Dr. M. A. McCall, assistant chief, said American growers will provide sufficient supplies of henbane, belladonna, digitalis and stramonium this year. He said only a few of the "enormous number" of botanical drugs imported into the United States were critical.

VITAMIN A

Discovery of a new precursor of vitamin A, and its conversion into the vitamin, a feat never before accomplished in the laboratory, was announced at the annual Spring meeting of the American Chemical Society at Memphis. The report was presented by Dr. Norris D. Embree and Edgar M. Shantz, of the Laboratories of Distillation Products, Rochester, N. Y.

The new vitamin A precursor, or provitamin, was found during a research study of whale-liver oil, and named kitol, from the Greek word for whale (ketos). The substance, it was stated, is exceptional in two respects, in both of which it is diametrically different from a yellow plant pigment, carotene, the best known precursor of vitamin A.

Carotene, as Dr. Embree pointed out, is converted by the animal body into vitamin A, but all efforts to bring about this change in laboratory research have failed. Kitol, on the other hand, is biologically inactive but can be converted into vitamin A simply by heating to 500 degrees Fahrenheit in a molecular still, one that operates under a high vacuum.

Kitol, which occurs most plentifully in whale-liver oils, is found in all other liver oils except those from certain freshwater fish.

"It is the first precursor to be converted to vitamin A in the laboratory," the report reads, "and, in this sense, the decomposition product of kitol is a synthetic vitamin A." This vitamin has never before been synthesized.

As far as known, the kitol in the large quantities of whale-liver oil that have been used in recent years had gone to waste. The discovery, it was maintained, will double the amounts of vitamin obtained from the whale-liver at a time when larger quantities of this vitamin are needed. The Distillation Products concern is a subsidiary of the Eastman Kodak Company and of General Mills.

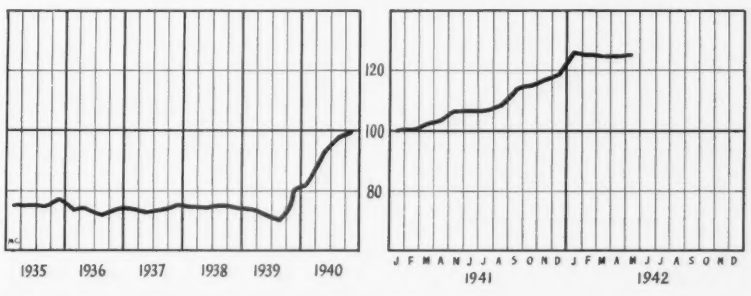
KAOLIN

For three straight years production of a high-grade clay in the United States has made new records. In 1941 sales of domestic kaolin jumped to 1,087,848 short tons valued at $9,205,892 compared with 833,450 tons valued at $6,994,106 in 1940, the U. S. Bureau of Mines reports. The tonnage topped that of the previous year by 31 per cent. and was more than double that of 1929.

Imports—almost all English clay—amounted to only 66,935 short tons with a foreign market value of $698,502 for the first nine months of 1941. Import statistics for the last quarter cannot be published, but the total for 1941 was undoubtedly less than the 105,566 tons imported in 1940.

Medicinal chemicals index advanced to 126.1 from the previous 125.0. Natural menthol was up $1 a pound to $14.50, this representing the only price change in the group. Announcement was made of a process for the production of synthetic menthol from coal tar. Equipment was being made ready by a large aromatic chemical house in New Jersey for the commercial production of this newest synthetic material.

15 Medicinal Chemicals—Weighted Price Index. 1926=100.



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